The Builder.

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Annual Report of the Science and Art Department.

THE Forty-Fourth Annual Report of the working of the vast machine for giving elementary instruction in Art and Science to the youth of this nation has just been issued. A large proportion of this formidable Blue-book of nearly 500 pages is, as usual, occupied with those vast arrays of statistics which are never looked at or referred to except perhaps by some member of Parliament wishing to make a point in his argument in an educational discussion. It is perfectly right, of course, to put these details on record; they are elements in the history of the subject. In the Science statistics there is at first sight rather a startling discrepancy between the figures in 1895 and 1896; as in 1895 the individual students examined numbered 113,398, and the papers worked 202,868; while in the following year these numbers sunk to 99,818 and 152,630 respectively One explanation given is that from 1889 to 1895 geometrical drawing was included under the science subjects and therefore came into this table, while in 1896 it was again classified among the art subjects, and consequently is not represented in this table. On turning to the art table, however, we find that geometrical drawing only stands for 12,947 "papers worked," so the change affords only a partial explanation. The statistics of the art classes show an increase in the total work, though some subjects seem to be falling off; freehand drawing, for instance, shows 53,451 papers in 1896 as against 59,445 in the previous year. But on the science side there is a general falling off of numbers, a rather unexpected result at a time when we hear more every year about the importance of technical training. The General Report, however, of Captain Abney, the Science Director, shows that he considers this branch of the Department to be in a satisfactory condition, and he observes that the new system of payment by attendance instead of payment on results appears to have had a salutary effect.

The Reports of various examiners in the art division, as usual, afford a good deal of rather interesting comment with regard to the quality of the work in different classes, and the special failures and causes of failure. In regard to architecture the examiner, Professor Roger Smith, reports that the advanced students have not done so well as formerly, and the average students rather better. Questions as to Renaissance architecture have been less frequently attempted than any others (a fact which shows that the students of the Department are rather outside the architectural movement of the day). "The questions requiring buildings or parts of them to be drawn from memory have elicited a great many answers of which the larger portion have been satisfactory, in some cases very much so"; and it is also noted that students asked for a written description of any existing building are beginning to find out that there are other buildings in the world than the Parthenon. In Design (elementary and advanced stages) the examiners, Mr. Lewis Day and Mr. T. Erat Harrison, record that improvement is to be observed in the design of ornament, which is generally speaking, more logical than it once was: "it is now only by exception that a scroll is made to grow in two opposite directions, at both ends that is say, or that a flower is provided with two separate stalks." It is, however, they add, disappointing to find so little power of thought as to the art of design. Students are asked to state in writing the material and method of execution they proposed in their design, but "they appear to write something at hap-hazard, contrary to what the drawing indicates, and it is clear that in many cases the design was first made and then the student began to think what it was fit for." In regard to style it appears that candidates, though they are not (and we are glad to hear it) asked to design in any given style, are asked to design "as though their work were to go with a room or building of some definite architectural character," a condition under which, as the examiners quite truly observe, the greater proportion of decorative work has to be undertaken; and that the results show that the students have not the least notion how to do this. It is perhaps expecting a little too much of students, at what we suppose is the average age of these, that they should be able to grasp the rather subtle relation between a certain architectural style or manner and an ornament which, though not a copy of anything in the supposed building or room, should yet harmonise with it. In the Report on the work for Honours in Design, the examiner, Mr. F. T. Shields, observes that it is pleasant to note that the number of designs "characterised by swinging unmeaning swirling lines about," condemned in these words in last year's Report, is diminishing. The great drawback to contend against is the rarity of the sense of beauty. In drawing from the life Mr. Yeames and Mr. Crofts find that there is a considerable increase in the number of drawings submitted, and no falling off in the majority of them in regard to execution—in fact the examiners are evidently pleased with the results, in spite of the existence of "a few outrageous drawings that can only disgrace the schools they come from." If there is not an improvement in this respect, it might be well to give the names of the schools, on another occasion, from which these bad drawings emanate; unless, indeed, such a statement would constitute "libel" in the eye of the law.

The criticisms on the general work of the schools are followed by criticisms on the works submitted in the "National Competition," on which we have already given our own comments. In regard to modelling the figure in round from life it is observed that there is a much better understanding of the construction of the figure than in former years; but on the other hand, in the case of drawing from the living figure the examiners are much disappointed, and find a considerable falling off from the work of former years, especially in the drawing of hands and feet. In regard to the painting of flowers and still life strong comments are made on the introduction of useless backgrounds of "draperies and intricate bas-reliefs." "When the foreground objects are themselves full of detail the use of draperies in the backgrounds with elaborate patterns on them is especially objectionable." In fact, it would appear that the tendency of the students is to try to show as much detail as they can cram in, instead of devoting their chief attention to the main object of the study. The designs for mosaic are characterised as "generally poor and inclined to be unpleasant in colour." In architecture, in

which the examiners were Professor Aitchison, Mr. Jackson, and Mr. J. J. Stevenson, the designs are summarised as generally creditable, though presenting no examples of remarkable excellence.

In regard to South Kensington Museum itself the first thing to be observed is that the visitors to the Museum show a considerable increase in numbers; the total (including Bethnal Green) is 1,519,506, and the increase in 1896 over 1895 123,630. The necessity for more space for the proper exhibition of objects is strongly urged, which of course is an argument for the long-deferred completion of the buildings. The principal purchases during 1896 were thirteen in number, mostly at pretty high prices, the highest being 793*l.* paid for a carved walnut-wood virginal with the arms of William, Duke of Guelderland and Count of March and Rosenberg; the work is of the sixteenth century. Is it to be understood that historical interest counts in the price of such an article? From the special mention of the arms and the titles of their owner it should seem that it does, and it may be a question whether it ought to be so. We take it that the South Kensington Museum is especially an art museum; and if so, the whole question in purchasing an article ought to be that of its artistic value; whose arms it bears, or who it belonged to, are matters which have no bearing on this question. We have not as yet seen the article referred to, but the price seems very high unless the workmanship and design are of exceptional excellence; and the impression conveyed certainly is that the historical association of the thing counted for a good deal. In that case South Kensington is overstepping its mark, and indeed we are inclined to think that prices for such things are given rather recklessly at times, and not with due regard to their purely artistic value. A good many water-colours have been bought, mostly at very moderate prices, the only large payment being 800*l.* for Sir E. Burne Jones' "Merlin and Nimuë," which as things go at present is certainly not excessive, though we may doubt whether this particular work will retain this value. 100*l.* was paid for David Cox's "Chepstow Castle," and 110*l.* for a Prout, "Duomo d'Ossola;" two prices which seem rather out of proportion in relation to each other; a good Cox ought to be worth more than a good Prout. Among other details we observe that arrangements are nearly completed for the electric lighting of the Western Galleries and the Indian Section. An endeavour is being made to get rid of the smoke produced by the boilers of the electric lighting installation. With this object a process invented by Colonel Dulier has been under trial for a year or so. It consists in introducing jets of water into the flue. The quantity of smoke has been lessened, and it is hoped that it may be entirely removed by a modification of the system, which the inventor is now engaged in perfecting.

The remarks under the head of Reports of Inspectors of Schools and Classes, which run to great length, contain many points of interest, of which we can only notice one or two. In regard to "drawing in elementary schools" Mr. E. G. Baker observes that Free-hand drawing is not preceded by sufficient study of form, so that the drawing is without confidence, and the practice of drawing the whole of one side of a symmetrical figure before commencing the other illustrates the same point. Mr. F. B. Barwell, reporting on Schools of Art generally, draws attention to the fact that in many cases the elementary teaching is started on a wrong method, and it is difficult after that to eradicate acquired habits. He instances the case of Birmingham, where all the primary teaching of drawing is under the direct supervision of the head master of the Art School, and urges that this plan ought to be followed wherever practicable. In regard to the general level of the artistic work, however, he observes:—

> "I do not hesitate to affirm that, neither in any other country in Europe nor in America could so remarkable a display of students' work, with so wide a range of subjects and aim, be placed before the public as our own National Competition affords. France might beat us in the correct drawing of the human form, and in certain pictorial matters, which latter, however, are not our aim here; Germany might possibly show some pre-eminence in other directions, but taken as a whole, neither country could present so wide a display of excellent Art work by young people of both sexes, who, be it remembered, are still in their pupilage."

The Reports of the Department cover an immense variety of subjects. There is a long Report, for instance, by the Director-General of the Geological Survey, dealing in detail with the work of the staff both in office and in the field. From this it appears that considerable progress has been made during the year, especially in mapping. The area geologically surveyed amounts to 740 square miles, with 3,866 miles of boundary line. This work consisted in large measure of re-surveying districts mapped many years ago, but a portion of the staff was engaged in the centre and south of England upon a survey of the Drift (or superficial) deposits. Several new maps were issued, and a number of rock sections made. But we look in vain in this Report for any indications that the Geological Surveyors are in future to render their work of greater practical value to the public. These maps and memoirs are very interesting—the Drift maps especially—but, published on the scale of one inch to one mile, they lose nearly all their economic value, at least to the engineer and surveyor, who want not general information, but special. It is not as though particulars concerning the practical application of geology were not sought after by the public. The Director-General admits as much in the following paragraph:—"Inquiries continue to be made at this office for information in regard to the practical applications of geology." That being so, we wonder that the publications of the Survey in recent years do not contain more valuable practical observations on geological economics than are to be found at the tail ends of the larger volumes. Much of what is written by the surveyors on that head is twaddle—of no use to any one. At the same time, it must be admitted that the splendid report submitted by Sir A. Geikie is far in advance of its predecessors in regard to explaining the results obtained by the Survey from a purely philosophical aspect. A little less of this work, which might well be left to private enterprise (of which there is no lack amongst geologists), and a little more work of economic value to the public, which pays the Survey under the impression that it is getting the best value for its money—and there would not be much to quarrel about. But the Survey would have to be re-modelled before such a radical change could be brought about. Perhaps the Director-General will be able to do more in the direction indicated after he has visited Russia, whither, we understand, he is now proceeding; the Russians have made some of the most useful "economic geological" maps in the world. He will there be able to see that it is perfectly possible to run the purely philosophical and the practical aspects of geology side by side. Will that visit influence his next year's Report?

The Report also includes a good deal of correspondence and statistics on a subject which is of world-wide practical interest, and of which more will certainly be heard, viz., the unification of astronomical, civil, and nautical time. Canada has taken a lead in this subject, and the statistics are furnished by a joint committee of the Canadian Institute and the Astronomical and Physical Society of Toronto. At present the civil day begins at midnight and ends the midnight following. The astronomical day begins at noon of the civil day and ends at the noon of the following day. The nautical day concludes at noon of the civil day, having commenced at noon of the preceding day. Thus a given date may, on the three systems together, extend into three different days. The question was put to a number of ship masters whether they were in favour of the unification of time, and commencing the day, in all three departments, at mean midnight, taking a twenty-four-hour time, and making mean noon at Greenwich the twelfth hour. Out of 243 answers received, the replies were almost unanimous in the affirmative. The question was also sent in a circular form to the astronomers at all observatories—"Is it desirable, all interests considered, that on and after the 1st day of January 1901, the astronomical day should everywhere begin at mean midnight?" Of 171 replies received, 108 were in favour of and 63 against the change; the replies are tabulated. Many of the affirmative replies are in favour of the adoption of the civil day for astronomical purposes, others object to this on the ground that the double series of twelve hours would be (as it certainly would) inconvenient for astronomers. To this the Canadian Report replies that the objection is of little weight, "as the astronomical practice of counting hours from one to twenty-four will gradually win its way into general favour in civil life." So we think; and the sooner the better.

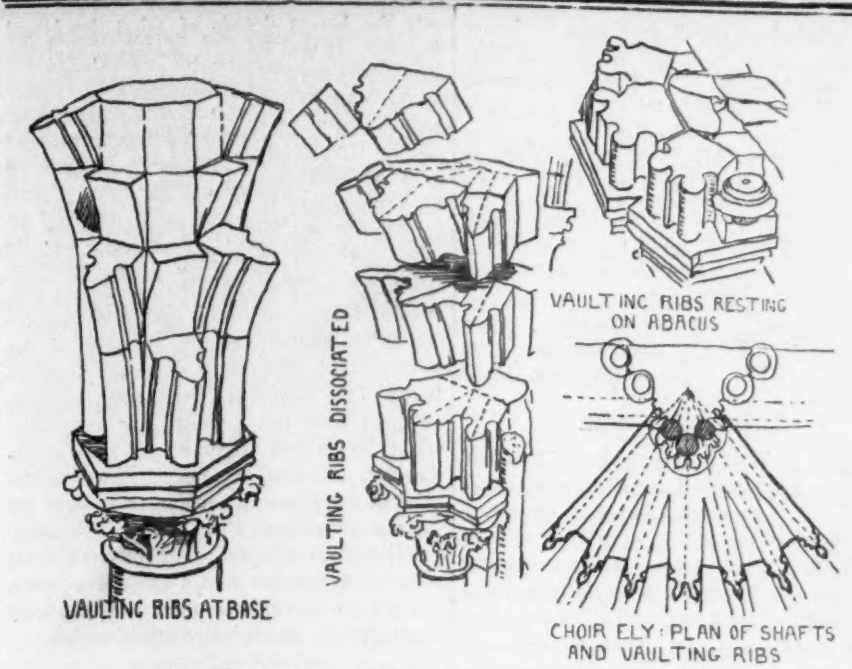
THE INFLUENCE OF MATERIAL ON ARCHITECTURE.

BY BANISTER F. FLETCHER, A.R.I.B.A.

CHAPTER VII.

The Gothic Style: The Age of Stone.

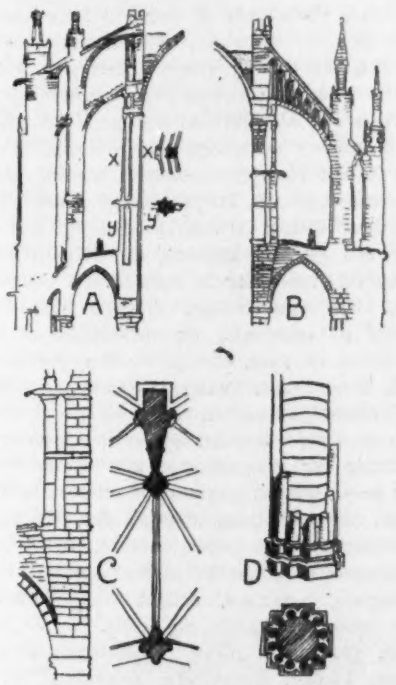
THE fully developed Gothic art of the thirteenth century was the style which had been slowly developing itself throughout Europe as a necessary sequence of the Romanesque style. It is by destruction, and modification akin to destruction, that architecture has always developed and progressed. By resuscitation and evolution, and only by such means, has it survived as a living art. To quote Darwin, "From the war of nature, from famine, and from death, the most exalted object which we are capable of conceiving, namely, the production of the higher


VAULTING RIBS AT BASE
VAULTING RIBS DISSOCIATED
VAULTING RIBS RESTING ON ABACUS
CHOIR ELY: PLAN OF SHAFTS AND VAULTING RIBS

Gothic Construction: Shallow beds with thick mortar joints.

animals, directly follows . . . . from so simple a beginning, endless forms, most beautiful and most wonderful, have been and are being evolved."

In this period—the thirteenth and fourteenth, and fifteenth centuries—the Gothic masons were exhausting the possibilities of stone as a building material. They heaped it up in towers that rose on open archways through the lofty roofs of the surrounding



A—Flying buttress at Beauvais.
B—Chancel buttress, Amiens.
C—Plan and section of portion of Chancel, Amiens.
D—Aisle piers, Nôtre Dame, Paris (coursed stone in conjunction with shafts set against the strata).

Principles of Gothic Construction: Elasticity and Equilibrium.

naves, and tapered away in shell-like spires embroidered in all the fretwork of Gothic tracery. They hung it aloft in ponderous vaults treated by art to seem the gossamer web of nature, scarce capable of bearing the stalactite pendants in which the latent fancy of the latest age found its expression. Eventually pushing their practice to the furthest boundaries, they cut the granular stone to the thinness of fibrous wood or iron, and revelled in tricks of construction and marvels of workmanship that astonish our inexperness. (See illustrations of Gothic buildings in separate plate).

In the thirteenth century the Gothic spirit, taking account of mechanical forces, employed materials at hand according to their nature; it sought for those laws of elasticity and equilibrium which were to be substituted for those of inert stability, the only laws known to the Greeks and Romans. It studied how to economise material, because it was so forced to elevate human labour from being the mere carrier of material, to the highest form of technical art and skill.

In the Romanesque period, the walling generally consisted of a rubble core between two faces of stonework, but at the beginning of the thirteenth century, edifices higher and of larger extent being built, a new method was gradually evolved. For, in seeking to diminish the thickness of the interior supports and of the walls, it was necessary for the architects on the one hand to find a mode of construction more homogeneous and capable of resistance, and on the other to avoid the expense of labour which the carrying of material of large size involved. Large facing stones were therefore more and more discarded, and stones with thick mortar joints, and small enough to be carried on a man's back, were gradually introduced, and were employed throughout the thickness of the wall; this method is a middle course between the Roman construction in large facing stones, and that of rough stones included between brick and stone walls.

In a word, the architecture was readily subjected to the means at command, for the architecture of the thirteenth century was adapted to a structure of small stones rather than to one of jointed blocks, and was a compromise between Roman rubble work and the use of jointed stones without mortar. The military organisation, which had helped to mould the Roman style, was, of course, wanting in the Gothic period, when stone was sought in various quarries from different proprietors and transported at the builder's expense or with voluntary aid; for the workmen were forced labourers, doing as little as possible, and taken away, ever and anon, to fight in their owner's battles. In regard to the material at hand, it must be observed that the Gothic architects of Western Europe possessed stone that was strong and hard, but which split in thin pieces; they had not at their disposal either the marble of Pentelicus or the blocks of granite which the Romans procured from Corsica, the Alps, and the East; they were absolutely compelled to erect considerable buildings with thin courses of stone, thus largely moulding the style, whereas the Greeks erected small buildings with enormous blocks of marble.

This condition would naturally influence the forms given to the architecture even in the vertical parts.

In regard to constructive features, the Gothic builders contented themselves with forming the transverse and diagonal ribs of their new system of vaulting on centres, timber in quantities required for centreing as in Roman vaults, and materials for their construction, not being at hand; and these arches became permanent centres on which the panels or "filling in" of thin stone could rest. This arrangement enabled the building to be erected all at once or in parts without disadvantage to the solidity of the edifice. This use of stone as against the concrete of the Roman period gave the elasticity to the building which enabled it to yield to strain without rending, and this, in its turn, was a *primâ facie* reason for the non-employment of a concrete or homogeneous mass.

Among the early Gothic architects the arch absolutely determined the form of the support. The arch determined not only the structure but the form which it took, and the architecture is dictated solely by the arch. Thus material, through the form which it dictates, may be said to influence architecture in this period.

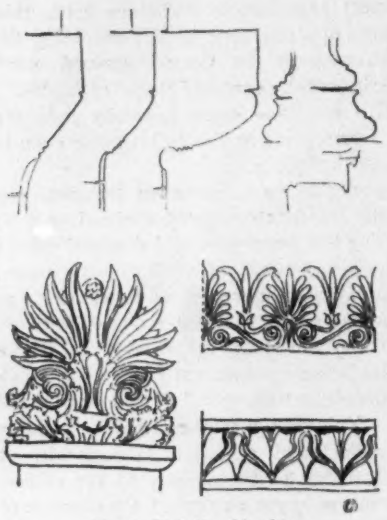
In any true architecture form is not the result of caprice, it is only the expression of the structure. The column is a real support; if its capital is expanded, it is to sustain a load; if the mouldings and ornaments are developed, it is because such development is necessary. If the vaults are divided by ribs it is because these ribs are so many sinews performing a function. Every vertical support depends for its stability on being stayed and weighted; every arch-thrust meets another which counteracts it. In this period walls as supports no longer occur; they have become mere enclosures, and the entire system consists of a framework which maintains itself, not by its inert mass, as in Roman construction, but by the combination of oblique forces neutralising each other. No such system of construction, it is evident, could have been developed without the employment of such a material as stone, laid in tolerably small courses with mortar joints, which gave the necessary elasticity to the various pressures.

This system, through the material used, shaped the mouldings, which fulfilled a useful function, protecting the architectural members externally, as in the case of eaves, courses, hood moulds, &c., and internally by jutting forward provide corbels and springers. Further, the comparative scarcity of materials taught the Gothic architects to practise economy in their use; this, no doubt, helped towards the evolution of the characteristic mouldings of the mediæval period, which exhibit much less waste of material than those common in Classic times.

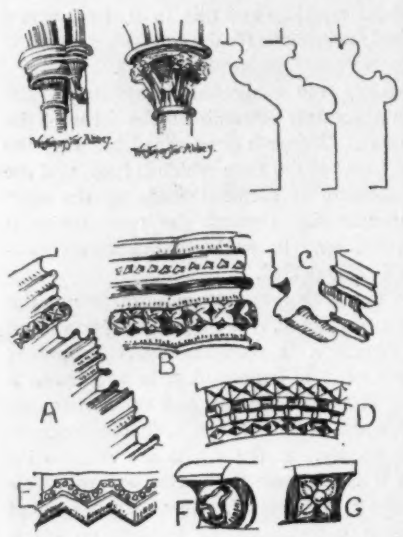
Every new erection was a step towards the limits assigned by the material at the disposal of the architect.

In the middle ages the structure is deco-

rated, it is the naked body to which an attractive form is sought to be given, and it is in this particular that the architecture of this period stands in such close relation to Greek art. The same principle of truth was upheld, but now the form had changed.



Greek Detail: Marble.



A—Haseley, Oxon. | D—Billet.
B—York. | E—Chevron.
C—Temple Church. | F—Ball Flower.
G—Four-leaved Flower.

English Gothic Detail: Coarse Stone.

It is no longe the self-contained Greek temple, reposeful in the severity of horizontal lines, but a complex, restless structure whose aspiring tendencies find expression in vertical grouping. There is unity in the whole because there is an exact and necessary correlation between all the parts.

NOTES.

The Government Offices Sites Report.

As we fully expected, the Report of the Select Committee on Government Offices Sites, which we print in another column, persists in the opinion that the Carington House site is sufficient for the War Office. Architects who gave evidence before the Committee in favour of grander and ampler schemes and a building worthy of the nation, have probably discovered (if they did not know it before) that an English Parliamentary Committee on such a subject does not want to hear anything about art or architecture; it wants only to carry its own scheme, and to put catch questions to witnesses to entrap them into admissions which may seem to favour the views of the majority. Some good, however, may have been done in opposing the notion of making the War Office a mere piece of street architecture following the curb lines of the site, as the Office of Works Surveyor wanted to do. The views of the Committee on the treatment of the Parliament-street site we quite concur in, and it is a relief to find that the ridiculous little triangular building at Spring-gardens, shown in the original "Improvements Plan," is disestablished. We may have more to say on the subject when the detailed evidence before the Committee is published.

The North Eastern Railway Dispute.

The award just issued by Lord James of Hereford proves that he most thoroughly went into and mastered the various questions submitted to him in connexion with the disputes between the North Eastern Railway Company and their employés. The examination of witnesses, &c., occupied twenty-three days, and the award, which is very comprehensive, is decidedly favourable to the men. As the arbitrator's decision will doubtless, in working, result in reducing "long shifts," and also in the diminution of Sunday labour, where possible, it must be regarded as satisfactory from a public point of view, if not from that of the railway shareholder. The North Eastern Railway men fully appreciate the concessions made, and the employés of other lines will no doubt endeavour to obtain similar benefits. We certainly hope that, where practicable, they may be successful; but it must not be forgotten that the same conditions do not prevail on all lines; and just as Lord James has divided the men into grades and classes, so the different railway lines may be looked at in considering the claims of their employés. Seeing that the award fills fifty-eight printed pages, it is a wise provision of the arbitrator that any differences which may arise as to its interpretation are to be submitted to him for further determination. It would be a great thing if difficulties as to the interpretation of Acts of Parliament could be as readily decided; but unfortunately—except for the lawyers—this is out of the question.

Tendering for Egyptian Bridges.

The very unsatisfactory way in which the Egyptian Railway Administration ask for tenders for the bridgework they require is at last receiving public attention, the matter recently attracting special notice by a report from Lord Cromer to Lord Salisbury regarding the collapse of the Embabeh Bridge over the Nile. The Egyptian Government appoint a board of three gentlemen, selected and nominated by England, France, and Egypt, and the final selection of the successful tender is left entirely with this board. The subject of complaint is that this board is not composed of engineers, and consequently it cannot have that thoroughly scientific and practical knowledge of bridge-construction without which it is impossible to form a correct judgment of the designs which they are called upon to examine. Before asking for tenders the board provides specifications and drawings, but these drawings are in reality mere sketches, giving the position, length, and such general particulars of the structures, whilst in the specifications will be found only the barest details of what the board require. It will be seen, therefore, that the contractors have to prepare their own designs for the various bridges, as well as to submit their prices for carrying out the works. This method of procedure could not be objected to if the designs and prices thus obtained were examined by some one capable of judging of the merits of the designs as compared with their cost. But under the conditions at present existing almost any class of bridge might be proposed by competing manufacturers, the strength of the structure not depending upon the requirements of the Egyptian Government, so much as upon how far a particular contractor might be willing to take the risk of its stability. As English contractors are in the habit of constructing substantial bridges for railway purposes, they have, therefore, practically no chance of their offers being accepted when the first cost of the work, and not its strength, is apparently the only question that receives any consideration.

Australasian Association for the Advancement of Science.

This Association, the object of which is to promote the intercourse of those who cultivate science in different parts of the Australasian Colonies and in other countries, will hold its seventh session in Sydney on Thursday, January 6, 1898, to last till the following Thursday. The period during the Christmas and New Year vacations of the universities and colleges, it is hoped, will be a convenient time for a very large proportion of the members to attend. The President-elect is Professor A. Liversidge, F.R.S., and the following Presidents of Sections have been appointed:—Astronomy, mathematics, and physics, Mr. R. L. J. Ellery; chemistry, Mr. T. C. Cloud; geology and mineralogy, Captain F. W. Hutton; biology, Professor T. J. Parker; ethnology and anthropology, Mr. A. W. Howitt; economic science and agriculture, Mr. R. M. Johnson; engineering and architecture, Mr. H. C. Stanley; sanitary science and hygiene, the Hon. Allan Campbell; and mental science and education, Mr. John Shirley. Tickets will be issued to members, on production of a certificate of membership, by the Queensland, New South Wales, Victorian, South Australian, Tasmanian, and railway authorities, at single fare for the double journey, available for two months, and excursions will be organised to places of interest, such as the various mining districts, the Jenolan, Wambeyan, and other caves, the Blue Mountains, and similar places of interest to geologists, botanists, artists, and others. The local secretaries are:—Mr. E. F. J. Love, Queen's College, Melbourne; Professor Parker, University, Dunedin; Mr. Alexander Morton, the Museum, Hobart; Professor Rennie, University, Adelaide; Professor Bragg, University, Adelaide, and Mr. John Shirley, Cordelia-street, South Brisbane.

"Light and Air" Cases at Berlin.

It is not often that we hear of the rights of air and light being discussed in Germany, but a paper at Berlin, interested mainly in freehold property, has recently published a series of articles relating to this question, from the pen of Dr. Julius Stadthagen, the solicitor to one of the Landlords' Associations. Without entering into the questions of air and light as treated at Berlin, we may notice that

some of the customs and rules which govern these questions in the German capital might be studied with considerable benefit by the lawyers of our own country, for, speaking generally, it appears that a common sense view is taken on most of the points involved, and precedents do not play so important a part as they do here. It is also apparent that, as in other branches of law, the Berlin property-owner or tenant is not obliged to risk any very great expenditure in upholding his rights, and that he can guard himself against encroachments by a procedure that is easily workable. Dr. Stadthagen's descriptions and examples are particularly lucid, and their translation into English would be valuable.

Electricity *v.* Steam, for Railways.

THE competition between steam and electric railways is beginning to be a serious matter in America. The falling off in the receipts of steam railways owing to the construction of electric tramways parallel to them has in some cases been as great as 50 per cent. This has forced some of the railway companies to buy up the electric lines and to turn the motive power in their branch lines from steam to electricity. The Pennyslvanian Railway Company now possesses the largest mileage of track worked by electricity. In a recent report issued by the New York, New Haven, and Hartford Railway, the working of their branch lines by electricity is shown to have been very successful. The Nantasket Beach branch, nearly seven miles long, has been worked for two years on the overhead trolley system, and has given great satisfaction. It is interesting to notice, however, that in the construction of their latest branch from Hartford to Berlin, a distance of twelve miles, they have adopted the third rail system of traction, first successfully operated on the Liverpool Overhead Railway. This line was opened last month, and it was found that trains with a carrying capacity of two hundred passengers could be regularly and rapidly moved, even when the rails were under water. In ordinary circumstances the leakage is negligible, even although the third rail is at a pressure of 650 volts. As it would be unsafe for any one to touch the third rail at this pressure, special precautions are taken for the safety of the passengers, such, for example, as cutting off the current when the train is at rest in the station. In the future, when the motive power on a railway is changed from steam to electricity, it seems probable that the third rail system will be the one adopted.

A Fire in a Cold Storage.

A FIRE has lately occurred in America, during which the natural phenomena which usually accompany a conflagration were apparently reversed. The ice-cold storage vaults of a New York firm were found to be in flames, and while the firemen were engaged in trying to subdue the outbreak, a vessel containing ammonia, used in the process of refrigeration, exploded, spreading its vapour in all directions. The firemen were obliged to work in the cellars of the building in a freezing atmosphere, heavily charged with smoke and the fumes of ammonia, and it was some hours before they succeeded in mastering the flames. One of the men lost his life, and two others had to be taken to the hospital, as they were suffering from the effects of the ammonia and the cold

Report of the Medical Officer for Hackney.

THE annual Report of Dr. King Warry, the Medical Officer of Health for the Parish of Hackney, is chiefly medical in its statistics, but there are one or two points in it bearing on the sanitary condition of dwellings. A note is given of a report on the insanitary condition of four houses in Hackney Wick. The houses were in three different roads, but the complaint in each case was much the same—damp walls, no damp course, no through ventilation beneath the ground floor, no water-closet or no water-supply to it, &c. It is satisfactory to find that the effect of the Report was to induce the responsible owners to put the houses into habitable condition. In another page of the annual Report it is mentioned that the insufficient damp-proof courses are a common cause of complaint in Hackney Wick, that the Medical Officer had recommended the covering of many damp sites entirely with concrete, and that during 1896 250 sites of dwellings had been thus concreted. The following extract from the Report is of interest as an example of the importance of having an impermeable ground under dwellings:—

"On the morning of December 17, 1896, two females were found unconscious in their beds at a house in Bartripp-street, Hackney Wick, the house smelling strongly of coal gas. They were removed to hospital and ultimately recovered. These persons slept in the front room of the ground floor; others sleeping upstairs, I am informed, suffered also from nausea and vomiting. On the previous evening a slight smell of coal gas was perceived in the house, but could not be accounted for, as gas was not laid on to the premises. On investigation it was ascertained that a fracture had occurred in the gas main in the road about fifteen feet from the front of the house. The surface of the road being well macadamised, the gas was prevented from escaping through the surface, but was able to pass through the deeper and softer soil into the house. The soil on which the house was built being loose and 'made up,' offered less resistance than the road outside to the passage of the gas. In addition, the heat of the house had an aspirating effect, assisting the escape of the gas from the soil. This incident is an example of the danger of not covering the sites of dwellings with some impermeable material."

The State of the Brent.

A SOMEWHAT spirited correspondence is being published in regard to the state of the River Brent. It is admitted that it is in a disgusting and unhealthy state, being full of sewage matter. This being so, the only question of a practical character is, who is to blame for this state of affairs, and how is it to be remedied? At present the Middlesex County Council, and the different District Councils by whose areas the so-called river flows, put the blame on each other. Clearly the proper way is for the several Local Authorities to hold a conference, so that some collective effort may be made to put an end to the present state of affairs. It is undesirable that money should be spent in legal proceedings, when, undoubtedly, considerable expense in improved sanitary arrangements will be necessary. This being so, each Local Authority should cease from excusing itself, and should set to work to assist in restoring this stream to a proper sanitary state.

Cost of Working Lifts.

IN a paper which Mr. F. J. Sprague contributed to the American Institute of Electrical Engineers he states that, "elevators" (as they are called in the States) are now so much used in the high buildings in New York that more persons are carried vertically than horizontally. The high speed passenger service generally runs at a velocity of from 300 to 600 ft. per minute, and opinions seem pretty evenly divided as to whether, for such purposes, it is more economical to employ electricity or hydraulic power. In the discussion which followed the paper, however, the general tendency of experience seemed to indicate that, although possessed of many advantages, electric elevators were not more economical than the most approved types of hydraulic or steam elevators. This, however, does not seem to be the experience in some other countries. A good deal of information on this subject was furnished some time ago by Mr. E. Egger, who stated that in the United States the result of working electrically showed that a useful load of 1,500 lbs. lifted to a height of 100 ft. cost about ½d. inclusive of return journey. But in Berlin it would appear that the cost of lifting a useful load of 850 lbs. to a height of 80 ft. by electricity amounts to only $\frac{1}{16}$ of a penny inclusive of descent, compared to double this amount when the elevator is worked by hydraulic power; and in Vienna the figures obtainable tend to show a still more strongly marked difference in favour of electric elevators.

St. Matthew's, Bethnal Green.

IN November last a faculty was granted by Dr. Tristram, Chancellor of the Diocese, for laying out the parish churchyard as an open space. The ground was accordingly converted into a public garden by the Metropolitan Public Gardens Association at a cost of about 800*l.*, and was opened by the Earl of Meath on July 20. The parish was formed in 1742, and the church, designed by George Dance, the elder, was consecrated four years later. On the night of December 18, 1859, a fire consumed all of the church, excepting the outer walls. The structure was reinstated after the designs of, we believe, Mr. Knightley, by a parish rate. The church has some good stained-glass windows, including a series known as the "Huguenot Memorial. The organ is by Jones, 1861. In Bethnal Green, with a population exceeding 130,000 persons, there are only twenty acres in all of open space reserved for public recreation.

Muckross, Co. Kerry.

AN Irish newspaper announced last week that Muckross Estate (the ancient Cloghreen), Killarney, has been chosen for the site of a Royal residence, and that a considerable sum is offered for the property. In 1583, Sir Valentine Browne, Knight, of Crofts, co. Lincoln, was deputed, jointly with Sir Henry Wallop, to survey various escheated lands in Ireland. In June of that same year, Sir Valentine bought from the Earl of Clancarty all the lands in the counties of Kerry and Cork, which had formerly belonged to Rorie Donoghuemore and Dermot MacCormac. His grandson, created a baronet in 1622, received a confirmation, by patent from the king, of his property there, including the Lakes of Killarney. His grandson, created Viscount Kenmare on May 20, 1689, forfeited the estates through his fidelity to James II. They were, however, recovered by his lineal descendant, the fifth baronet (the viscounty conferred by James II. after his abdication was not acknowledged in law), whose grand-

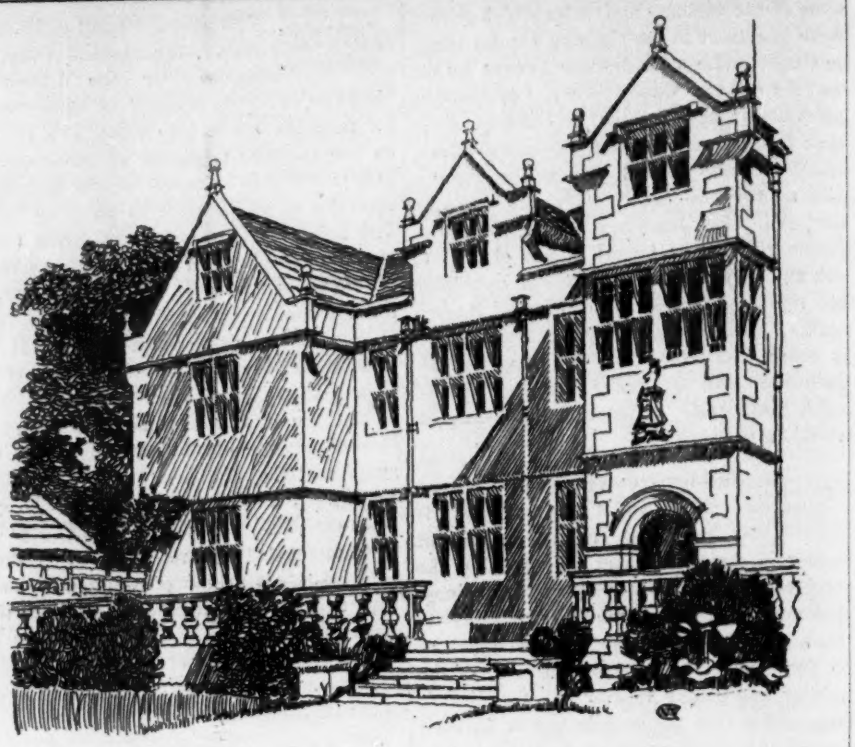
son was created Viscount Kenmare 1798, and advanced Earl of Kenmare two years afterwards. Thus that property has continued to our own day in the possession of the Earls of Kenmare; but the Muckross demesne now belongs, we gather, to Colonel Herbert. The ruins of the abbey stand on an acclivity of the peninsula of Muckross, between the Middle and Lower lakes. The abbey, formerly known as Irrelough, was founded as a friary of the Holy Trinity for Franciscans, in 1440, by Donald MacCarthy, and has since formed a favourite burying-place of the houses of MacCarthy and O'Donoghue. The abbey was rebuilt *circa* 1620, but soon afterwards fell into decay.

THE ARCHITECTURAL ASSOCIATION EXCURSION, LANCASTER.

In striking contrast in every way is the working field of the Architectural Association's industrious and zealous band of students and sketchers this year to that of last. Then the sylvan beauty of the south, now the gloom and mystery of the north, then the warmth of brick and tile and timber, now the sedate stateliness of stone and slate, then close proximity to the wealth and glitter of London, now the wealth and grime of Lancashire. The distance of the locale from the homes of the majority of the party led to a goodly company of eighteen members taking advantage of the railway excursion arrangements, so that the Architectural Association excursion of this year may be said to have commenced at Euston Station on Saturday morning last. By the forethought of the *de facto* Assistant-Secretary Mr. Hennings, reserved carriages added to the comfort of the party, and the long and tedious journey was deprived of much of its irksomeness by the camaraderie of the members.

Arrived at Lancaster, no more than an hour late, quarters were found, and subsequently most of the party made their way to the Exhibition of Arts and Crafts, located in the volunteer drill hall and adjacent Phœnix rooms. As might be expected the majority of the exhibits are of an amateurish quality both in design or intention and in execution, but there is sufficient in almost all departments—painting, modelling, wood-carving, metal work, and ecclesiastical needlework—to interest the artist and the craftsman and to instruct the amateur.

Sunday was spent as usual. Quietly in the morning, then a short impromptu excursion in the afternoon. On this occasion the sea formed the temptation, and Morecambe was visited, some walking the four miles, others taking advantage of the tramcars that run to and fro between Lancaster and its newly born neighbour on the coast. Surely, the foreigner who first accused us of taking our pleasures sadly must have spent a Sunday at Morecambe or some similar north country seaside resort. Sad and saddening are the proper epithets of Morecambe, especially on Sunday. Two miles or so farther along the coast the visitors came to Heysham, to the antiquary, the archæologist and the artist a delightful refreshment after the dismal deadly dulness of Morecambe. An old, very old village, is Heysham, nestling in charming irregularity of disposition in a combe; many of the old picturesque houses remaining with the ancient church, chiefly Early English and Decorated on a Norman foundation, half hidden amongst the trees on the cliff above, and itself quite an upstart compared to the ruined monastery near by, an undoubted relic of Saxon times. Of this same Early period there are fragments built into the walls of the present church, dedicated, by the way, to St. Patrick, and within quite recent years a remarkable sepulchral monument of very Early Saxon work has been disinterred and exposed to view in the churchyard. The most striking peculiarity about the church is the manner in which the same span of nave and two aisles is roofed with one ridge and gable west of the chancel arch and wall, and with three eastward. Other objects of interest are a number of curious stone coffins presumed to be of Saxon date, and a somewhat dilapidated sundial in the churchyard bearing date 1696, but suggesting that it is a palimpsest and has been "reformed" from an older churchyard cross. There are some picturesque old houses in the village, but the most important piece of domestic work is at what is known as High Heysham, an old manor house of very picturesque though simple treatment, bearing date 1598.



Borwick Hall. Part of the Front.

Returning to Lancaster, the excursionists received their first wetting, and, with the hope that it might prove the last, felt that the traditions of the Architectural Association were thereby maintained.

Monday.

The first official day of the excursion broke fine and clear, and so continued tempered by a pleasant breeze. The day's work lay along the valley of the Lune, the beautiful scenery of which provided no inconsiderable part of the day's enjoyment, culminating in the exquisite view at Kirkby Lonsdale, which Ruskin has described as "one of the loveliest in England, and therefore in the world. Whatever moorland hill, and sweet river, and English forest foliage, can be at their best is gathered here."

The first halt was made at Claughton Hall (see lithograph sketch), formerly the seat of the Croft family in the fifteenth century, but now partially dismantled, and used as a farmhouse. The aspect towards the road is very picturesque and striking, with two lofty gabled towers, evidently erected for the sake of the view, with an almost conservatory-like excess of glass in their slight mullioned and transomed windows. There can be little doubt that the house, as it stands, has been erected at three different periods, between the time of the Crofts in the fifteenth century (of whose work there is a very picturesque oriel window or moulded corbels, and with embattled transoms and cusped lights), and the middle of the seventeenth century, to which period the north front probably chiefly belongs. A plan and sketch of the house have been published in the Abbey Square Sketch Book, but there is little of interest internally, and it is difficult to assign to the plan the uses of the several parts with any approach to probability. Near the Hall is the small church built in 1815, and with little of interest beyond its east window, its belfry and its old bell all relics of an earlier structure. There seems to be about Claughton air some subtle influence which causes its builders to revel in providing puzzles for archæologists, for, besides the church, a remarkable instance is to be seen in the Hall, where within the time of the present tenant an old stone bearing date 1573, and initials, probably T. I. C., which was found in the village, has been set in the wall of the fifteenth-century portion of the house.

The next halt was at Hornby, where a short time only was spent in examining the church (see lithograph sketch), chiefly interesting as an example, and a very excellent one, of the skill of Messrs. Paley & Austin. Of the mediæval church all had been swept away in the beginning of the century with the exception of the tower and the chancel, both of which are curious as well as interesting. The tower is octagonal on an octagonal base, the axis of the base being counterchanged with that of the upper part. The chancel, too, has an octagonal apse with unequal sides. So that the mediæval designer in the Perpendicular time was evidently a man who had views as to the capability of the octagon in design.

Leaving Hornby, an al fresco luncheon was negotiated by the roadside, and then a visit paid to Thirland Castle (see sketch), where the party were received by the owner, Mrs. Lees. Thirland Castle is now a thoroughly liveable modern country residence, having been several times altered since its first erection by Roger de Poitou, in Norman times. Of this date no traces can be observed except, perhaps, the situation and the moat, the earliest fragments of the present building dating no further back probably than the time of Sir Thomas Tunstall, one of the heroes of Agincourt, who received licence to crenellate his house. In the sixteenth century it was the residence of Sir Brian Tunstall, who fought at Flodden, and during the civil war was held for the King by Sir John Girlington, but, like its neighbour, Hornby, taken by the Parliamentarians and dismantled. Subsequently re-built by Sir Jeffrey Wyatt and more recently restored after fire, altered and enlarged by Messrs. Paley & Austin, it can readily be understood that Thirland Castle is now an example of modern rather than ancient work.

The next objective point of the excursionists was Tunstall Church, of no great interest, although containing a mutilated effigy supposed to be that of Sir Thomas Tunstall (see sketch), and monuments of the Fenwick family. The tower is small and simple, but of good proportion; and there is some rather peculiar tracery of Late Decorated or Early Perpendicular date.

The party then proceeded to Kirkby-Lonsdale, stopping on the way to inspect the ancient and famous "Devil's Bridge" over the Lune, remarkable for its antiquity, its design, but above all for the charming river scenery it frames and adjoins. Then on to the town of Kirkby-Lonsdale, where the church of St. Mary is the only object of much architectural interest. The building of the church apparently commenced at the west end (see sketch), where there are some Norman piers on the north side of the nave after the Durham manner, alternately of the circular Anglo-Norman and the Continental Franco-Norman clustered type. This design appears to have been too costly, for the southern piers, of Transitional date, are more slender, and without any intention of vaulting; proceeding eastward, the work becomes Early English, culminating in a three-light lancet window with rear arch treatment. The piscina in the chancel is in an unusual position on the

first pier on the south side. The church was widened in the fifteenth century, the old doorways being built into the new wall; and in the sixteenth century still further width was obtained by the erection of a second north aisle. In 1705 the tower was rebuilt or restored, and subsequently—in the eighteenth century—the whole edifice being in need of repair, its flat lead roof, battlements, pinnacles, and clearstory were removed, and a sloping roof of blue slate was substituted. The next restoration came in 1866, under Mr. Paley, so that there is plenty of history in the church for the speculative student.

After being entertained by the vicar and his wife and daughter, and admiring the view eulogised by Ruskin, the party returned to Lancaster, well satisfied with their first day's programme.

Tuesday.

The centre of the day's proceedings being at Grange, on the opposite side of Morecambe Bay, a railway journey was the first item on the programme, giving the excursionists an opportunity of enjoying the beautiful scenery and sea air between Lancaster and Grange. At this latter place carriages were taken, and the party was driven to Cark Hall, a charming water-colour subject in the bright sunshine (see sketch). Of course the majority of the sketch-books were directed to the later inserted doorway of the entrance front—an addition during the ownership of Christopher Rawlinson in the eighteenth century—although some of the sketchers preferred the general grouping of the front with its two end gables and central dormer and its mullioned windows which date back to the original erection of the house for the Curwens in the sixteenth century. The adventitious colour of the entrance doorway, with its grandly overhanging circular hood, and Ionic columns, although due only to weather-worn distemper, gives a charmingly effective contrast to the grey rough cast of the main walling. Due note was taken of the circular north-country chimneys; but the preoccupation of the farmer's wife with the wash-tub, and the stern discipline of the inexorable, but genial, quarter-master, prevented any inspection of the interior, with its panelled room and nice chimney-piece.

A further short drive brought the party to Cartmel, the only, or almost only, attraction of which is the magnificent Priory Church (see sketch), founded A.D. 1188 by William Mareshall, Earl of Pembroke, and dedicated to the Virgin Mary, and said to be the only conventual building in Lancashire that escaped mutilation after the destruction of the monasteries. Of the collegiate establishment nothing, however, now remains but the priory gateway, and the barest indication of the existence of the cloisters on the north-west of the church. As a piece of design there are few churches in Lancashire, or indeed in England for that matter, that are more satisfactory than Cartmel. The happy combination of the Transitional proportions, outline, and graceful interior with the later additions and insertions of the Perpendicular period, its enormous windows and unique tower, form a whole that may truly be said to be a perfect monument of wisdom, strength, and beauty. And yet the sketch-books were not busy, at least, internally; for Cartmel is hardly sketchable in the time that an Architectural Association excursionist has at command, except at a safe distance from the exterior, but is rather a place in which to drink in appreciation of the highest qualities of architectural design. It seems almost like sacrilege to turn one's pencil on to the delineation of carved misereres, beautiful and piquant as are those in Cartmel Church; still more so to sketch the screen erected when Mr. Preston, of Holker Hall, undertook the restoration of the church in 1640; or the feeble travesty of this in the upper part of the stalls. For him who is content to descend to small things, the fragmentary remains of the Harrington monument, probably part of that to Sir John and his wife (1305), and other monuments are worthy of study and, as a special example of graceful and refined design, it would be difficult to find one better than the Rawlinson monument in the south transept and put up in 1706. Far and away more admirable is this than the more costly and pretentious monument to the memory of the late Lord Frederick Cavendish recently erected, one more example of the ruin of artistic beauty by costly expenditure.

After a three hours' stay at Cartmel, the excursionists went on to Holker Hall, where they experienced discourtesy that is rare in the extreme in the records of Architectural Association excursions, and if of frequent occurrence would speedily put an end to this, at least, of the Architectural Association's educational methods. Although the honorary secretary of the excursion had received an autograph letter from the present occupant, Mr. Victor Cavendish, it was only after considerable delay and objection that the members were allowed to see three rooms of the newer portion of the house—a privilege accorded to the ordinary tourist and tripper.

A return was then made to Grange, where sufficient time was allowed to enable the members to enjoy the exquisite natural beauties of this most charming watering-place, and to lament that force of circumstances prevented the Committee from making Grange the head-quarters of the excursion of this year. After a beautiful sunny day, no grumbles were heard at the rain that came during the train journey back to Lancaster, and continued to fall during the evening.

THE ARCHÆOLOGICAL INSTITUTE AT DORCHESTER.

ON August 5 the Institute members and their numerous local friends proceeded in brakes to Sherborne, a long but beautiful drive, covering fully forty miles there and back. The old castle of Sherborne was reached about noon, when Mr. Wildman, M.A., the local authority, kindly took charge of the large party. He proved an excellent guide to the gatehouse, keep, chapel, hall, and other parts of this once imposing structure. The earthworks seem plainly to indicate an older occupation of the site than the Roman period, but none of the masonry is older than the days of Bishop Roger of Sarum (1107-1142), who was the founder of the castle. The alterations made in the gatehouse and keep during the fifteenth century are generally assigned to Bishop Langton (1485-1493). In the great civil war the castle underwent two sieges. On August 21, 1645, Parliament ordered the castle to be dismantled, and it was speedily made a ruin by repeated blasts of gunpowder.

The modern castle was then visited, for the sake of seeing in the dairy (in a badly-lighted and wholly unsuitable appointment) a fine tesselated Roman pavement, discovered at Southay Common, on which is represented a sitting figure playing on a six-stringed lyre, whilst another nude figure dances, playing on a double pipe. Unless we are mistaken, this pavement was considerably restored at the time of its removal.

After luncheon Mr. Wildman explained the many beauties of the grand old abbey church, one of the richest examples of Perpendicular treatment. As it was fully described and illustrated in the *Builder* of April 3, of the current year, it need not now be further described. We were glad to notice that some of the visitors had this number of the *Builder*, with its complete ground plan, in their hands. The domestic buildings of the abbey that remain, which are now for the most part incorporated in the school buildings, were clearly explained by Mr. Wildman. In the library the visitors were shown the 1550 charter of Edward VI. on the refounding of the school. The Rev. Dr. Cox here referred to the recent work of Mr. Leach on "English Schools at the time of the Reformation," and cordially agreed with the author that Edward VI. was the spoiler of schools, upwards of 300 having been suppressed by him and his father. Sherborne was one of the very few old schools of the country to which some small endowment was given back through the good influence of Dudley, Duke of Northumberland. Professor Clarke and others also endorsed this view.

The old hospital or almshouse, founded in 1437, and dedicated to St. John Baptist and St. John Evangelist, was inspected. The most interesting part is the chapel. The altarpiece is a fifteenth-century triptych, having the raising of Lazarus in the centre compartment, and the casting out the devil and healing the blind in the wings. It is a fine and delicate painting, and after some discussion was pronounced to be Flemish. Over it are two projecting rods, terminating in shields, which, doubtless, originally sustained a now missing altar canopy.

In the evening there was a pleasantly-managed soirée in the Dorset County Museum, by invitation of the members of the Dorset Natural History and Antiquarian Field Club. The President, Mr. Mansel Pleydell, received the numerous guests.

The morning of August 5 was occupied by the annual business meeting of the Institute, when, on the motion of Lord Dillon, seconded by Chancellor Ferguson, it was decided to accept the invitation of the Corporation of Lancaster to hold their session of 1898 in that town.

In the afternoon the party proceeded to Poundbury Camp, a short distance to the north-west of the town. The lofty rampart forms an irregular parallelogram of about 380 yards by 150 yards. The greater part of the ramparts was traversed, and then Mr. Emanuel Green (in the absence of Professor Boyd-Dawkins) expressed his general belief in its late Celtic origin, and its brief retention by the Romans. Mr. Moule, Mr. Cunnington, and others followed, but there seemed to be a pretty general agreement.

The important heights of Maiden Castle were next scaled, about 2½ miles south-west of the town. This is by far the grandest and most imposing earthwork to be found in the British Isles, if not in Europe. The line of mighty ramparts all round the crest of the hill are three-fold in some parts and five-fold in others. From the top of the ramparts to the bottom of the fosse measures, in many places, from 60 ft. to 80 ft., and is exceedingly steep. There are two entrances, one on the east side and the other at the west. Both are cunningly protected by overlapping lengths of broken ramparts, so that access to the camp can only be gained by pursuing a labyrinthine course. The plan of the camp, corresponding to the top of the hill, is that of an irregular oval, occupying an area of about 120 acres. Mr. Cunnington a local antiquary of repute, who has done much burrowing in the district, strenuously and persistently argued that the whole of this wonderful defensive work was accomplished by the Romans, in consequence of having found some Roman remains within it, but it did not appear that he converted a single member of the Institute to his views. Dr. Cox, at some length, and the Rev. Sir Talbot Baker in a briefer way, pointed out the complete impossibility of such a supposition, and contended that it was late Celtic work, held for a time by the Romans, and possibly occasionally used by them as a summer camp (for "camping out") after the building of Dorchester.

In the evening, before a crowded audience, Dr. Cox opened the Architectural Section with a paper on "The Treatment of the Cathedral Churches of England during the Victorian Age," which was a strong and detailed indictment against the destructive and mischievous effect of much restoration work.

The Dean of Wells disagreed with some of Dr. Cox's remarks, and the Rev. Sir Talbot Baker thought some of them too strong, but others, such as Mr. Rice and Mr. Micklethwaite, fully adopted the views of the President of the Section. The discussion was interesting and went on till a late hour.

The excursion of Saturday, August 7, was an attractive one irrespective of archæology. The eight miles' drive to Abbotsbury afforded continuously beautiful views both of land and sea, whilst there was the Chesil Beach for geologists, and the great swannery for naturalists. On reaching Abbotsbury, the church was described by the vicar, Rev. B. Neville. It is in the main a Perpendicular building, with a good west tower. In a niche over the west door is a symbolic group of the Trinity, the Father, with the Crucifix, and Dove. This is often seen on brasses, but very rarely in relief in stone. Opinions were expressed in favour of retaining a quasi-classic reredos of the year 1751, which is certainly good of its kind. The Jacobean pulpit and sounding-board have been somewhat spoilt. In the south porch is a fine effigy of an abbot in low relief, in Purbeck marble, of thirteenth century date, which has been brought here from the adjacent abbey. The church plate is remarkable for possessing an eighteenth century bread knife, with a silver-gilt haft and similar case.

The abbey church lies immediately to the south of the parish church, with its scattered remains of conventual and early farm buildings on the south side. There is a noble fourteenth century barn which Dr. Cox described. Only half of it is now in use and roofed, with a handsome porch and turreted staircase. The other half, with the second porch, is now in ruins. The total length is somewhat over 300 ft., and is beyond doubt the

largest known example of a mediæval barn in England. There is a slight variation in the buttresses, showing that only half was completed at one time, and that then there came a break of some years before the full plan was completed. Very probably the interruption was caused by the Black Death. The western gable is supported in the centre by a large buttress of several stages, terminating at the apex in a canopied niche.

After lunch the heights overlooking the sea were climbed to visit the solitary and beautifully situated chapel of St. Katharine. It is a building of immense strength, of about the middle of the fifteenth century, having a slightly cored vaulting of stone, and walls 4 ft. thick. The builders succeeded in making it nearly storm proof, and notwithstanding its exposed situation and the unglazed condition of the windows, it is still in substantial repair.

Whilst resting on the sward and admiring the lovely prospect, the party succeeded in persuading Professor Boyd Dawkins (who had rejoined the expedition) to talk to them on Maiden Castle. He expressed it as his opinion that it was the work of Celtic people of the late or Iron Age, and said that it was a simple impossibility that it could be of Roman origin.

On August 9 the party, who kept up their number of about 100 well to the end, made their first pause at Wolfeton House, a short distance from Dorchester, of which a plate was given in last week's *Builder*. The owner, Mr. Albert Bankes, made a most efficient guide, not only to the house but to the neighbouring church of Charminster. The house was built by John Trenchard, father of Sir Thomas Trenchard, during the reign of Henry VII., and was enlarged and altered in the next century. There are several historical incidents, as well as curious legends and a creepy ghost story, attached to it. It contains some fine plaster ceilings and large, well-carved chimney-pieces.

The church of Charminster, which was till recently in a disgraceful state, has now been restored on careful and conservative lines by Mr. Ponting. Amongst other things, the restoration brought to light small Norman clearstory windows between those of Perpendicular date. These windows correspond with the Norman pillars of the arcades below, though the pointed arches are of the next period. The tower is a fine example of Late Perpendicular, 80 ft. high, though from its unusual width it looks lower. It was built by Sir Thomas Trenchard at the beginning of Henry VIII.'s reign.

The drive was then continued a few miles further until Cerne was reached. Here was seen another fine monastic barn, of which again only part remains. It is not near so large as that of Abbotsbury, but the fourteenth-century workmanship of speared flints and courses of Ham Hill stone is excellent, and could not have been surpassed had it been intended for a church.

After lunch the Rev. H. D. Gundry conducted the visitors through the church. Cerne Church is chiefly Perpendicular with some remains of thirteenth century work in the chancel. It is the least interesting of any of the churches visited by the Institute during these meetings. The gem of the adjacent abbey remains is the richly-adorned and embattled three-storied gate-house, or rather entrance-porch, to the abbots' buildings or guest-hall, usually spoken of in error as the abbey gateway. There is a considerable display of heraldry about the two large bow windows of the west front, which reach from above the arch to the battlements. This work was done by Abbot Thomas about the year 1509.

The steep southern declivity of the hill at the back of the village was then climbed to reach the celebrated Cerne Giant. This great phallic figure is 180 ft. in length, and represents a man wielding an uplifted club in his right hand. It is outlined by trenches about 1 ft. deep and 1 ft. wide. Professor Boyd Dawkins expressed the view that as the giant was in the midst of a once thickly populated district of the Bronze Age, that it probably pertained to those days, and compared it with similar colossal figures in Scandinavia. It was stated that General Pitt Rivers, who owns the ground, expects shortly to conduct excavations in the immediate vicinity of the Giant.

In the evening the Rev. Dr. Cox presided over the Architectural Section, where the Rev. Sir Talbot Baker gave an exhaustive address on "The House of the Vestals in the Forum at Rome, and the Discovery of Anglo-Saxon Coins in the Excavation thereof." This was followed by a short account of the recent detection of an Anglo-Saxon church at Breamore, near Salisbury, by the Rev. A. du Boulay Hill. Mr. Hill stated that the removal of certain plaster had aroused attention, and careful investigation proved that the whole of the shell of this church, nave, chancel, and south transept or chamber, was Anglo-Saxon.

The remains of a large outside rood had come to light beneath a later south porch, as at Headborne, Worthy, and Romsey. Small windows opening in the rubble, without any ashlar, had come to light in the nave. But the most interesting discovery is that of an inscription round the arch into the south transept, cut deeply in the stone; the Anglo-Saxon is late, probably of the beginning of the eleventh century; the experts translated it:—"Here becomes manifest the covenant to thee." The meaning seems to be a reference to the completion of a church building vow."

The last day's excursions (August 10) afforded delightful drives in the best wooded part of the county. Puddleton church was described by Mr. Doran Webb; it has some excellent fittings of the time of Charles I. Lord Dillon gave full and most interesting descriptions of the series of effigies of the Martin family, which are in the south transept. Drawings of some of these details were given in last week's *Builder*. The same number also contained a plate of Athelhampton Hall, which is the best example of Tudor domestic work in the county. Here Mr. Moule gave one of his interesting expository addresses.

After a further drive through beautiful country, the great stately church of Milton Abbas was reached. The choir, aisles, and transepts remain, and the fine central tower, but the nave has disappeared. It reminds us much of the chapel of Merton College, Oxford. Mr. Doran Webb gave a good general description of the church. One of its greatest curiosities is a supposed "tabernacle" of fifteenth century work, attached at a considerable height to the west wall of the south transept. The woodwork is of four stories richly carved and painted, save on the side nearest the wall. There is an opening on the wall side about a foot square into the lower story, and the bottom panel is pierced with interlacing work. The top of the pinnacle is broken off, but its present height exceeds 9 ft. It is most strongly and massively fastened with iron stays against the wall, and is, beyond doubt, in its original position. The whole thing is a bell box, the grooves from which it swung still remaining. Mr. Micklethwaite and Dr. Cox climbed ladders to inspect it, and agreed as to its intention and as to its being in its first site. There is a foolish project for swinging this great thing in front of the high altar, under the impression that it was a tabernacle for the reserved sacrament, but we have no doubt that this intention will now be abandoned.

The manor house of Bingham's Melcombe formed the last of this interesting and most successful round of visits. This house was described and illustrated in the *Builder* of October 5, 1889.

This ended the meetings proper, but thirty-five members left Weymouth by boat on August 11, to finish the week in the island of Jersey, at the invitation of the Société Jersiaise.

SOMERSETSHIRE ARCHÆOLOGICAL SOCIETY.

After a period of twenty years, the Somersetshire Archæological Society met at Bridgwater for its annual meeting on August 4, 5, and 6.

On Wednesday, after the general meeting had been held in the Town Hall and the Society had been entertained at luncheon by the Mayor, the various points of interest in the town were visited. The parish church of St. Mary is a large church of Perpendicular date with earlier work in the north porch of the Decorated period. At the west end is a low plain tower surmounted by a lofty spire. The curious series of "squints" to enable the altar to be seen from the porch has unfortunately been destroyed. They are noticed and illustrated in "Parker's Glossary." The interior possesses some interesting woodwork, including the screens, with various monograms, on either side of the chancel, an elaborate pulpit, three stalls with a miserere now placed against the west wall, and some later screen work of Jacobean date. Under the window of the north transept are two external recesses with mutilated effigies. There are still some interesting remains of Domestic work in the town in the neighbourhood of the church: the house known as "Admiral Blake's house," an ancient doorway in Silver-street, and the Watergate of the Castle on the West Quay. Meetings were held in the afternoon and evening, at which various papers were read, one on "Admiral Blake," by Professor Montagu Burrows, and another on "Blake's Charities," by Mr. W. L. Winterbotham. The two following days were devoted to excursions to manor houses and churches in the neighbourhood, which were of great interest, those visited on Thursday being situated west of Bridgwater, in the beautiful country stretching to the Quantocks and the Channel, while on Friday the route lay across the famous battlefield of Sedgemoor, on the east side of the town, with its memories of the Monmouth Rebellion, and to the hardly less interesting site at Athelwey of King Alfred's Monastery.

On Thursday, Stoke Courcy was first visited. Here are some remains of a castle, and a very fine cruciform church with a central tower and spire. In the church is Norman work of two dates, the tower arches being earlier than those in the chancel: good examples of carved bench ends; a Norman font; two interesting monuments of the Verney family, one with a fine effigy in armour of John Verney, who died in 1461, and a few encaustic tiles. The church is remarkable for the great height of the chancel level above that of the nave. From Stoke Courcy, a beautiful drive took the party to Doddington Manor House; another old house, Fairfield, being passed on the way. Doddington is an interesting example of a fifteenth century house, with later additions. The earlier part of the house includes the porch, "screens," the hall, with its minstrel's gallery, and doubtless the main walls of the building westward. The withdrawing-room seems to have been altered or remodelled at a later period, and the date 1581 appears on the outside. A fine fire-place, at the upper end of the hall, also bears the same date on the heraldic panel over it, the shield charged with the arms of Doddington, Wyndham, Trivet, and Sydenham. The hall has a good open timber roof, and some heraldic glass, while in the withdrawing-room is some good plaster work. The church, which stands close by, is of no great interest; on the tower is a panel with a shield charged with three bugle-horns, and the initials and date G.D. 1610.

From Doddington, the party drove to the remains of Stowey Castle, which is apparently an early fortress—probably British—afterwards used as the site for a small Norman castle. The intrenchments remain in a very perfect state, and the foundations of the Norman keep, square on plan, have also been exposed. The castle was described by Rev. W. Gresswell, and Mr. E. J. Stanley, M.P., the President of the Society, afterwards hospitably entertained the members and their friends at luncheon at Quantock Lodge.

On the return journey Spaxton Church was first visited. The church stands well on rising ground, and with the exception of Early windows in the nave and at the east end, is of Perpendicular date, with a good western tower and south porch with remains of an upper story. On the north side of the chancel is a fine tomb under a panelled arch, with male and female effigies; no date or inscription appears on it, however. The woodwork in the church is noteworthy, some of the bench ends being very beautiful. One known as the "Fullers" panel depicts a man "fulling" cloth, with the implements of his trade above. In the aisle, near the south porch, is an alms-box, apparently of the fifteenth century. The churchyard cross is very perfect, and is well illustrated in Pooley's "Stone Crosses of Somerset." The head of the cross remains with sculptures under canopies, and the plinth is panelled with shields, the whole standing on a flight of several steps.

Blackmore Farm is a fifteenth-century house following the usual plan, as at Doddington, but in addition retaining its chapel with canopied niches on either side of a three-light east window, lancets in the side walls, and a gallery approached from the upper floor of the house. It was suggested that, although the building follows the general lines of a manor house, it might have been a grange or "cell" to the Abbey of Glastonbury, with which it was connected.

Cannington Church, the last building visited,

is entirely Perpendicular, and the tall tower and nave and chancel being under one continuous roof, give the church a curious appearance. Outside are fourteen consecration crosses, carved in low relief on stones slightly less than a foot square. On the north side is an extensive building, largely of late date, but standing on the site of the Priory. It is now used as a reformatory.

On Friday the interesting series of churches lying in the Sedgemoor district were visited, and the only domestic work of interest was the "Club" house at Weston Zoyland. The six churches included were Chedzoy, Weston Zoyland, Middlezoy, Othery, East Lyng, and North Petherton. The Perpendicular period is chiefly represented in all, but at Chedzoy much of the body of the church, including the nave arcade, south porch, and chancel (with traces of a south chapel) is Early English. Consecration crosses, of a different and apparently earlier pattern, occur outside the church, and there is a brass to a Sydenham in the north transept, an altar frontal made from a fifteenth century cope, and a fine series of bench ends, one of the time of Queen Mary, with the initial M. surrounded by a garter, and the date 1557. Over the south porch are three panels, one having the date 1579, and another a shield with R.B., for Richard Beere, Abbot of Glastonbury.

On the south transept at Weston Zoyland is also a panel with Beere's initials. The church is the most spacious of those visited, and has a very fine western tower, and a nave with clearstory, porches and two transepts. The chancel is of Decorated date. Under the window at the north end of the transept is a figure of a priest under a canopied recess. Middlezoy has, like Weston Zoyland, a fine western tower, and Early work in its chancel, and Othery is cruciform with a central tower of Late Perpedicular character. Here also is an embroidered cope of the fifteenth century.

At East Lyng is an interesting church—small in size, but with many good bits of detail. The west tower is of the same type as Middlezoy and Weston Zoyland, and built of blue lias and Ham stone. The parapets here, as at the other two churches, are richly panelled and pierced, as are also the windows of the belfry. The interior is highly picturesque, and has an interesting series of bench ends very boldly carved. Also a fifteenth century pulpit in the south-east angle of the nave.

North Petherton Church, the last on the list, is a fine Perpendicular building with a richly panelled western tower, a clearstoried nave with porches and aisles, and a chancel with a vestry at the east end, as at Langport and Crewkerne. The party afterwards returned to Bridgwater.

REPORT OF THE SELECT COMMITTEE ON GOVERNMENT OFFICES SITES.

THE Select Committee "appointed to inquire into and report upon the manner in which the sites available for the erection of the new buildings required for Government Offices may best be appropriated for that purpose" (for that, it should be noted, was the sole "reference" to the Committee, the question of architectural treatment being left untouched), has agreed upon the following Report, dated July 22, 1897 :—

"In continuation of our Report dated July 23, 1896, we beg leave to state that we have taken further evidence upon the plans laid before the Committee last year.

Having regard to certain criticisms made from an architectural point of view upon those plans, we have thought it well to examine representatives of the Council of the Royal Institute of British Architects, and other qualified members of the profession.

Various alternative plans have been submitted to us by these gentlemen, but whilst we have availed ourselves of some of their suggestions, we have felt unable, owing partly to the enormous cost involved, and partly to other considerations, to recommend their schemes generally for acceptance.

Upon a review of the whole evidence, we have arrived at the following conclusions :—

We are of opinion that the new public offices on the 'Parliament-street' or 'Great George-street' site should be erected mainly on the lines of Plan No. 1 in the Appendix to the Report of last year, with a frontage in a line with the frontage of the Home Office, and parallel to the east side of Parliament-street; but we recommend that the south-eastern corner of the new building should be square and not rounded. The land between this new frontage and the present west side of Parliament-street would, if this plan were adopted, become part of the public street; and, in our opinion, there is no need to make special provision for separating the traffic at this point.

It appears to us reasonable, in view of the great metropolitan improvement here to be carried out at the cost of the Government, that the London County Council should be requested to consider whether they should not put into operation the powers possessed by them under the Public Offices (Westminster) Site Act of 1896, and contribute a share of the total value of the land which, under this scheme, would become part of the public street.

We recommend the appropriation of this site for the Board of Trade, the Education Department, and the extension of the Local Government Board.

As regards the Whitehall site, having considered the alternative schemes for the War Office which have been placed before us this year, we adhere to the recommendation made in our Interim Report, being satisfied that a building satisfactory in appearance and accommodation can be erected on that site within its present boundary lines; and we are of opinion that the details as to the arrangements of buildings, courts, &c., should be entrusted to the discretion of the Office of Works, in conjunction with the architect selected. We think that a subway should ultimately be formed under the street between the War Office and the Admiralty.

Schemes have been submitted to the Committee by the Royal Institute of British Architects and by Colonel Edis, for a widening of Charing Cross and of the northern part of Whitehall; but we cannot recommend that the taxpayers should be asked to bear the cost of this metropolitan improvement, which, if undertaken, comes more properly within the duty of the Local Authorities.

We, however, strongly advise that the Mall should be opened into Charing Cross on the north side of Messrs. Drummond's bank.

We do not contemplate the passage of any other than light traffic through the Mall, and are satisfied that the skill and experience of the police would supply satisfactory means of overcoming any difficulties of traffic which might to some extent follow such opening.

We think that no decision should be arrived at as to building on the triangular site in Spring-gardens until the houses standing there have been removed, and the ultimate requirements of the Admiralty considered.

We recommend that Nos. 11 and 12, Downing-street, occupied respectively as a residence for the Chancellor of the Exchequer and as an office for the Patronage Secretary to the Treasury, should be removed, as unworthy of the site they occupy; but we are of opinion that the principal block of No. 10, the historic residence of the First Lord of the Treasury, for reasons of practical necessity and on account of its associations, should be retained, the Downing-street front being masked by erecting a new building with a good architectural façade, and the Park front being cased in stone, so as to harmonise with the north and west fronts of the old Treasury buildings, and the garden ground being enclosed with a screen or railing of handsome design.

We do not recommend any further building on this site. We are of opinion that whatever other office accommodation is required, which cannot be conveniently found in existing Government buildings, should be provided for by an extension of the Great George-street site in the direction of Delahay-street and St. James's Park, in which case some readjustment of the arrangement at present shown in the plan of the Office of Works might have to be made."

POST-OFFICE, LYDNEY.—A post-office building has recently been erected at Lydney at a cost of 2,000*l*. The builders were Messrs. Kean & Sons, of Coleford, and the architect Mr. Howard Howells, of Lydney.

Illustrations.

NEW CHURCH, ELLAND, YORKSHIRE.

THE proposed new church at Elland, Yorkshire, is designed to be built on an excellent site, the west end facing the Savile-road. The site itself is, in many ways, a most desirable one, being both spacious, and well suited for architectural effect. It has an extreme length from west to east of about 300 ft., and a breadth of 165 ft., and a fall of some 7 ft. towards the east.

After certain plans had been placed before the building committee, the work of designing the church was placed in the hands of Mr. Geo. H. Fellowes Prynne, of London, and early in the present year his plans were submitted to, and approved of by, the committee.

The architect has taken advantage of the fall of the site towards the east, and gained sufficient head room to place commodious vestries, parish room, lavatory, and heating chamber below the chancel floor level, besides adding greatly to the external effect at the east end.

The crypt plan* shows a large room, 24 ft. 6 in. by 42 ft., immediately under the chancel, which is intended to be used partly as a choir vestry, for choir practice, and as a parish room. A large clergy vestry is placed on the south side, under the chancel of the side chapel. From this vestry a circular staircase for the special use of the clergy leads to the ambulatory above. An external porch in connexion with these rooms, with lavatory adjoining, is placed on the south side, as are also the heating chamber and coal cellars.

The entrance to the heating chamber is from the outside, and its only connexion with the church is by a small circular turret staircase.

An open stone staircase 6 ft. broad leads from the vestries to the upper part of the church.

The general scheme for the Church shows a nave of 111 ft. long by 29 ft. wide with a broad narthex at the west end, which being only divided from the nave by a large archway nearly the whole width of the nave, gives a considerably greater apparent length to the Church. The main western entrance doors open into this narthex, which also serves as a baptistery, the font being placed in the centre. The nave is divided into six bays, these bays being clearly marked by vertical wall shafts, which run up nearly to the roof plate level, and carrying the main moulded principals of the roof. The walls are 30 ft. in height, having somewhat low arches, with clearstory above. A large circular window 15 ft. in diameter, and filled with tracery, is placed high up in the west end wall. A lofty chancel arch carried right up into, and following the curve of the barrel roof, divides the nave from the chancel. The total internal height is 42 ft. On either side of the jambs of this arch, niches are formed for the insertion of sculptured figures.

The length of the chancel and sanctuary together is 45 ft. by 25 ft. in width, carried to the same height as the nave. There is sitting accommodation in the chancel for a choir of forty-six. Nine steps lead from the nave to the altar. The organ is placed on the south side of the chancel, the player being placed on a floor 11 ft. above the chancel level.

Passages are placed on either side of the chancel for the convenience of clergy and choir.

Transepts are thrown out at two eastern bays of the nave, both on the north and south sides. That on the north side forms the nave of the side chapel. This chapel will be a very great convenience for daily and special services, as it is designed to accommodate at least eighty adults, besides giving space for a small choir, and will be so arranged that it can be lighted and heated independently of the church, and can if necessary be curtained off from the main body of the church. Besides the main western entrance, porches are placed north and south, and at the west end of transepts.

The style chosen is a free treatment of Early English. The chief features of the exterior are the treatment of the west and east ends, the two portions that will, of course, be most seen when the neighbouring property has its burden of bricks and mortar.

A flèche, which will answer the double purpose of a belfry and ventilator, is placed immediately over the centre of the chancel arch and nave.

At the head of the chancel gable is a panel of sculpture representing the Crucifixion.

The grouping at the east end of the chancel, chapel, and transept gables, with the flèche rising in the centre to a very considerable height, will form one of the most pleasing exterior views of the church.

The church will accommodate 800 adults. The materials used will be local stone for walls and dressings, and tiles for the roof.

* We regret that the plan of the church, which is of some interest, was sent in too late for reproduction along with the description.

ILLUSTRATIONS OF "INFLUENCE OF MATERIALS ON ARCHITECTURE."

THIS sheet of illustrations, from photographs, is given to accompany Part IV. of Mr. Banister Fletcher's paper on "The Influence of Materials on Architecture." It includes exterior views of Rouen, Coutances, and Henry VII.'s chapel, interiors of Amiens and Salisbury, and a view of the roof tracery of Henry VII.'s chapel.

SKETCHES WITH THE ARCHITECTURAL ASSOCIATION EXCURSION.

THESE sketches form memoranda of various places visited during the excursion of the Architectural Association in Lancashire, which has been taking place this week. They are either referred to in the account of the first portion of the excursion, given in another column, or will be referred to in the account of the latter portion of the excursion to be given next week.

We have already given some archæological notes on the places visited, in the *Builder* for July 31, page 89.

MAGAZINES AND REVIEWS.*

IN the *Art Journal*, "Art at Sea" is a rather more restricted article than its attractive title implies, being merely a description and illustration of some of the decorative detail in the interior furnishing of the yacht *Volatile*, which seems to us to be a little too much pervaded by fancifulness and eccentricity. The figure head, by Mr. Aumonier, is a good and original bit of work, a female bust with butterfly wings. A review of various statues of Burns, with small illustrations, is of interest, but does not lead us to the conclusion that Burns can be adequately treated in sculpture; the rustic dress is inseparable from one's idea of the poet, and does not "treat" well in sculpture. Some admirable animal studies by Mr. Swan illustrate an article "At the Zoo," by Mr. Cosmo Monkhouse, which rather suggests the idea of having been written up to the illustrations.

The *Magazine of Art* is mainly devoted in this issue to decorative art, the article which is most interesting from its illustrations being that on "Flax Embroideries," the work of a special firm, who have evidently some persons of real artistic feeling and perception in their employ; it is the more to be regretted that the names of the actual designers are suppressed, in accordance with a selfish trade spirit which is fortunately getting somewhat out of date now. A periodical like the *Magazine of Art* might give an important impulse in the right direction by refusing to illustrate designs unless they were allowed to credit the actual designer with his work. The same is the case with the excellent examples given of work from the Lambeth Potteries, though Messrs. Doulton, to our knowledge, have generally shown a liberal and truly artistic spirit in recognising the individuality of those who work for them. An article by Mr. Walter Shaw-Sparrow on the "Teneriffe Drawn Needlework" introduces us to a special type of textile work, the process of which leads apparently to the evolution of geometrical patterns, but not of a kind which is out of keeping with textile. Mr. F. S. Robinson's article on "Decorative Art at Windsor Castle" is concerned with the clocks to be found there, chiefly Boulle, and very fine specimens of their kind, though it is a type of art we cannot feel much sympathy with.

To the *Antiquary* Mr. Sydney Hollands contributes an interesting paper, of some length, on "Some Mediæval Mechanicians," giving an account of various early and abortive attempts on record at the making various kinds of machines, some of which were really forerunners of important modern inventions; ideas struck out and dropped again for want of the means or the perception to put them into practical application. Mr. Alleyne Walter's closing article on "The Three Ancient Churches of York, Recently Demolished," appears, along with, we regret to see, the announcement of his death.

The *Century* contains three articles of picturesque illustration: "The Lordly Hudson," with a panorama, among other things, of city and river from the head of the "Liberty" Statue; "A Journey in Thessaly," with pictures by Mr. Harry Fenn; and "Down to Java," in the illustrations to which the country and people are brought home to us.

From the "Field of Art" page in *Scribner* we learn that the Americans have taken one more step towards Frenchifying themselves in art by the establishment of an American Academy at Rome, in imitation of the Villa Medici; "not far from it," indeed, as is specially mentioned. The frontispiece, No. VIII. of "Scenes from Great Novels," illustrating Dimmesdale's revelation which forms the *dénouement* of "The Scarlet Letter," is a poor concern, quite unworthy of Hawthorne's powerful and impressive story.

In the *Atlantic Monthly* Mr. Muir's article on "The American Forests" is a serious one on an important subject, viz., the enormous waste which seems at last to threaten the practical destruction even of the apparently endless timber supplies of America. The author urges that it is high time for the United States Government to begin a rational administration of its forests. The same subject is touched on in a short article considering it in its political aspect, and recounting briefly the measures which have been recently proposed though not definitely carried. This (which appears to be an editorial article) asserts roundly that "unless there is a radical reform in the management of the forests on the public domain, the prosperity of the whole country west of the one hundredth meridian must gradually diminish with the vanishing forests, and that without active and energetic military control nothing can save these forests from extermination." The question is one which affects timber purchasers in the Old World also.

Harper contains a good and well illustrated, and moreover an enthusiastic description of "The Hungarian Millennium," otherwise the recent exhibition at Budapest, and its buildings.

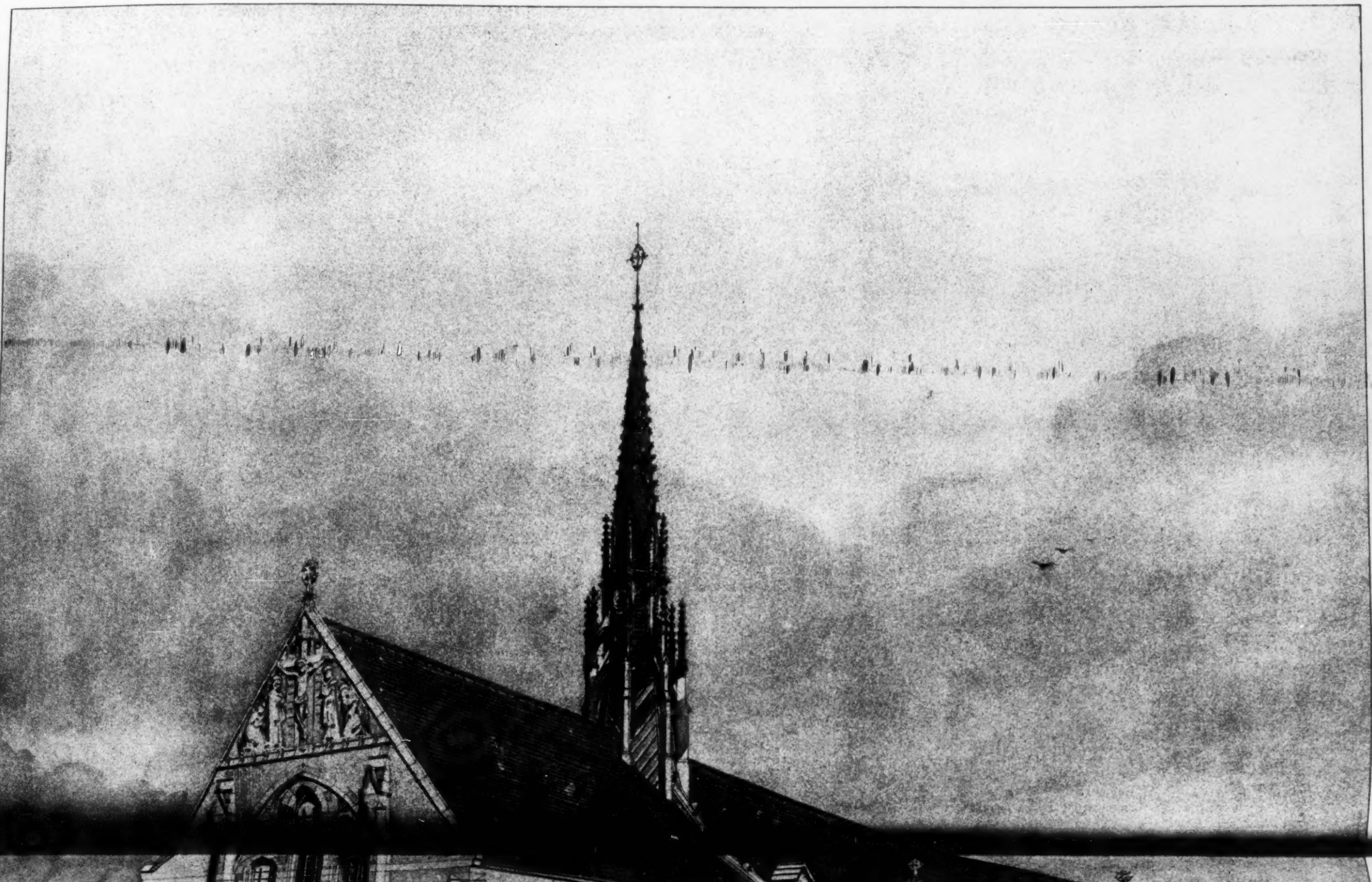
The *Pall Mall Magazine* contains an illustrated article on Cliveden, and one on "Bombay Past and Present," a subject on which many Englishmen may be glad of a little information.

In the *Cornhill* the pleasant and witty author of "Pages from a Private Diary" suggests that one way of celebrating the Jubilee year might be that every one who is in possession of anything that he has no right to should give it up—"county gentlemen who have enclosed commons, antiquaries whose private museums are decorated with church fonts or registers or monumental brasses," &c. This is surely not only an original but a wholesome proposition.

Longman's contains an appreciative article on George Mason and his art, with every word of which we are disposed to agree. The rather interesting fact is mentioned that shortly after the appearance of his beautiful picture "The Evening Hymn," Mason received what is said to have been the unprecedented honour of being elected an Associate of the Royal Academy by the unanimous vote of the whole forty academicians. Among facts about his pictures it is related that his beautiful and poetic little work, "Girls Dancing," was suggested in the first instance by the sight of a little country girl dancing and holding her skirt with both hands; a hasty sketch of her formed the basis of the picture. In his anxiety to satisfy himself with this work the artist by degrees painted it nearly all out in the course of improvements, so that if it were "cleaned" in a radical manner a quite different picture would be found underneath.

The *Quarry* contains a short article on the "Donegal Granite Quarries" and one on "The Principle and Tendency of the Compensation for Accidents Bill," by Mr. W. J. Greenwell Barrister-at-Law. Mr. Greenwell looks doubtfully on the Bill, and thinks if its principle be taken as sound "there is no reason why any possible kind of employment ought to be

* The object of these notes is to point out anything in the contents of the current magazines which is of special interest to our readers, with occasional brief criticisms on the views expressed in such articles. When a magazine which has been sent to us is not noticed, it is because that number contains nothing that it is within our province to comment upon.



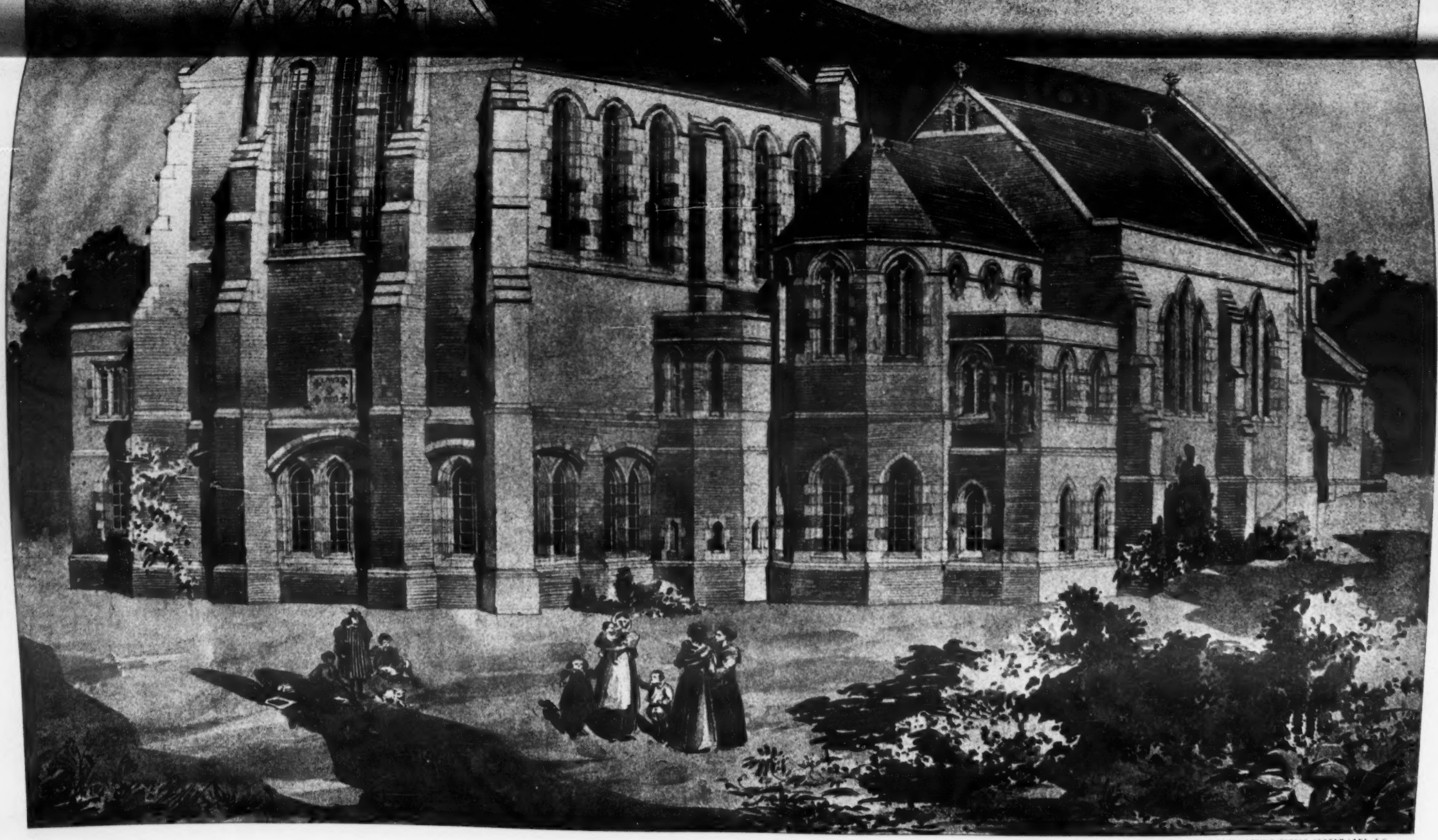
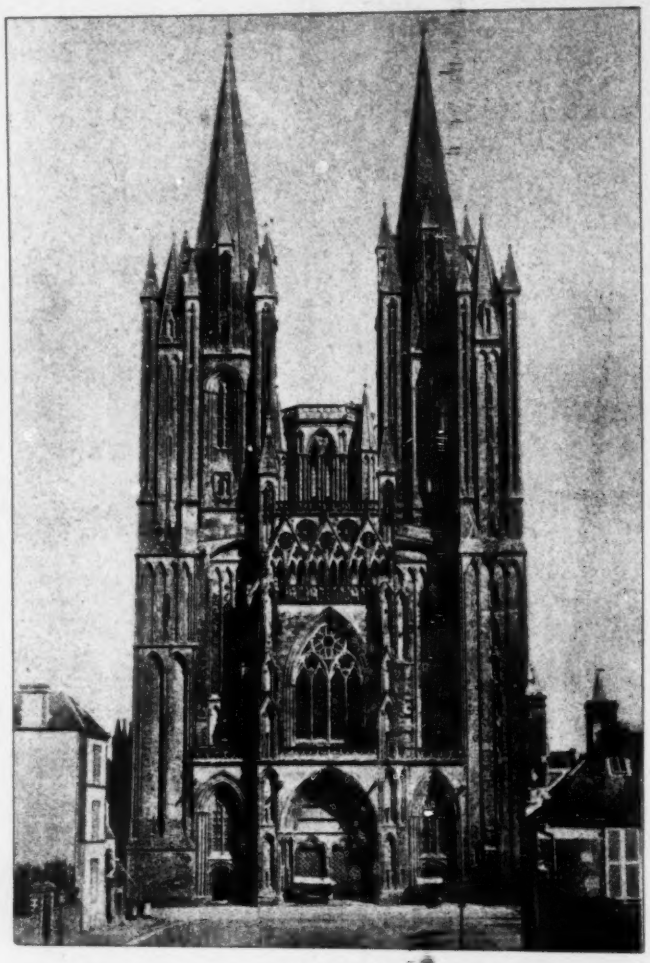


PHOTO. SPRAGUE & CO. 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

NEW CHURCH, ELLAND, YORKSHIRE.—Mr. Geo. Fellowes Prynne, F.R.I.B.A., Architect.



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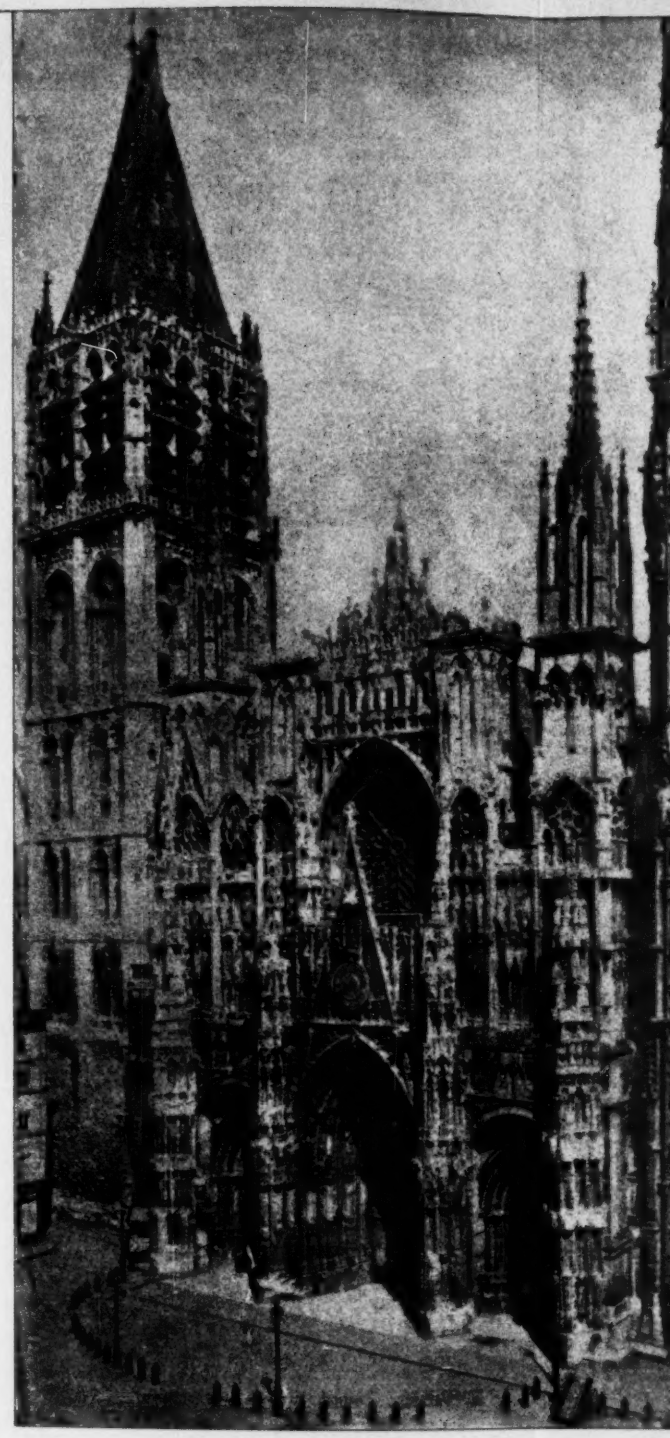

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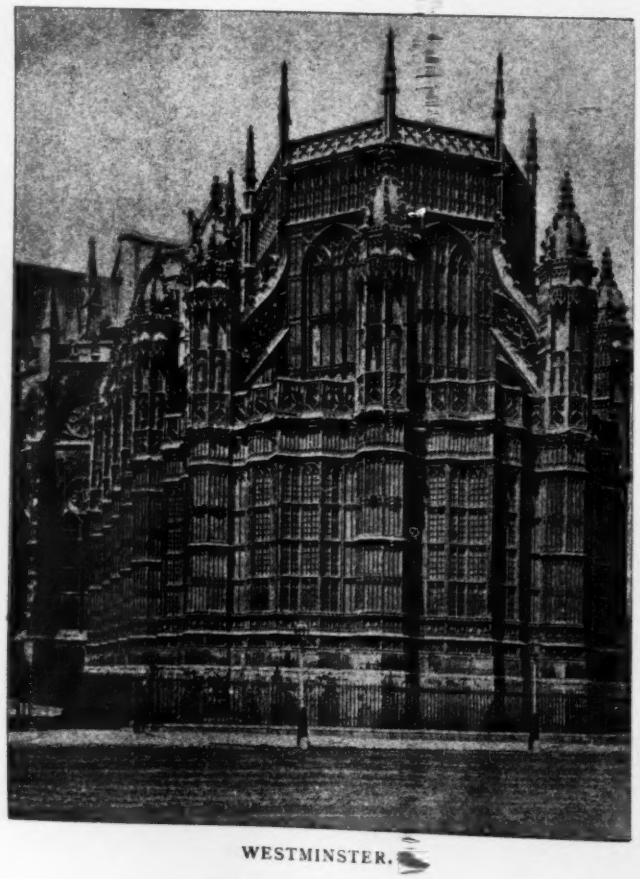
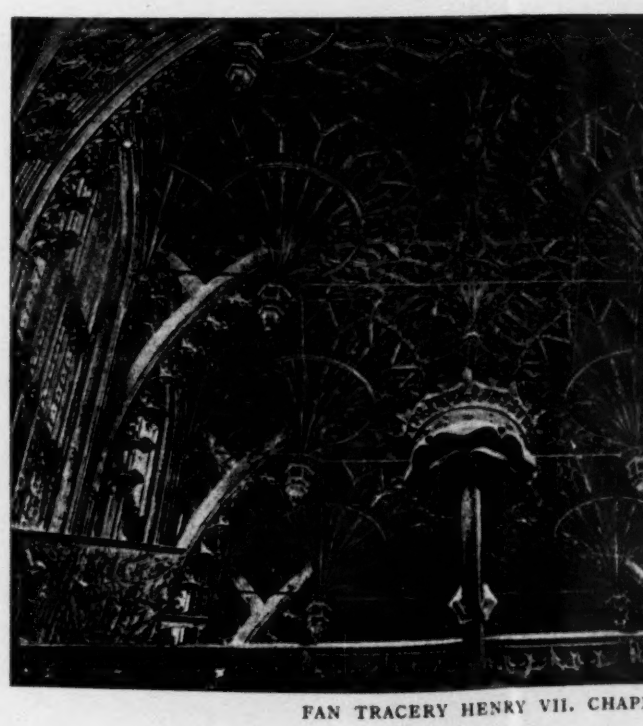
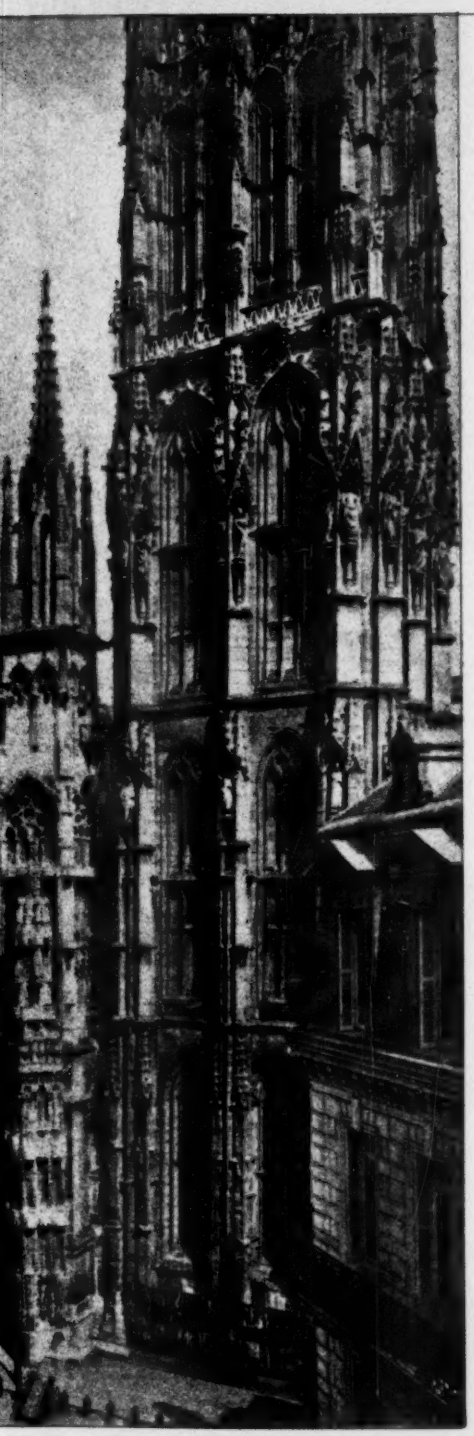


WESTMINSTER.



FAN TRACERY HENRY VII. CHAP

ILLUSTRATIONS TO Mr. BANISTER FLETCHER'S ESSAY: "INFLU



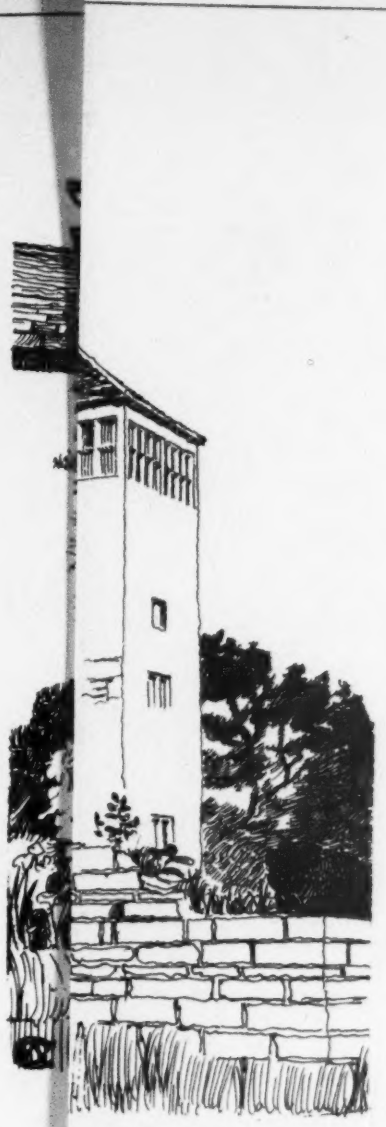
I.

RY VII. CHAPEL.

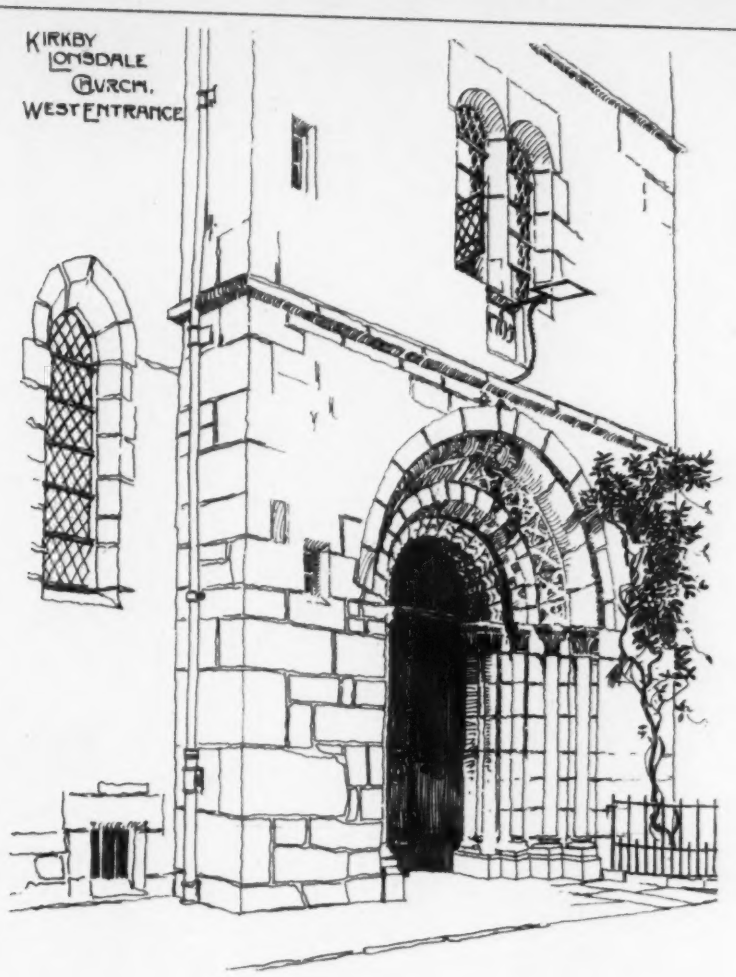
AMIENS.

SALISBURY.

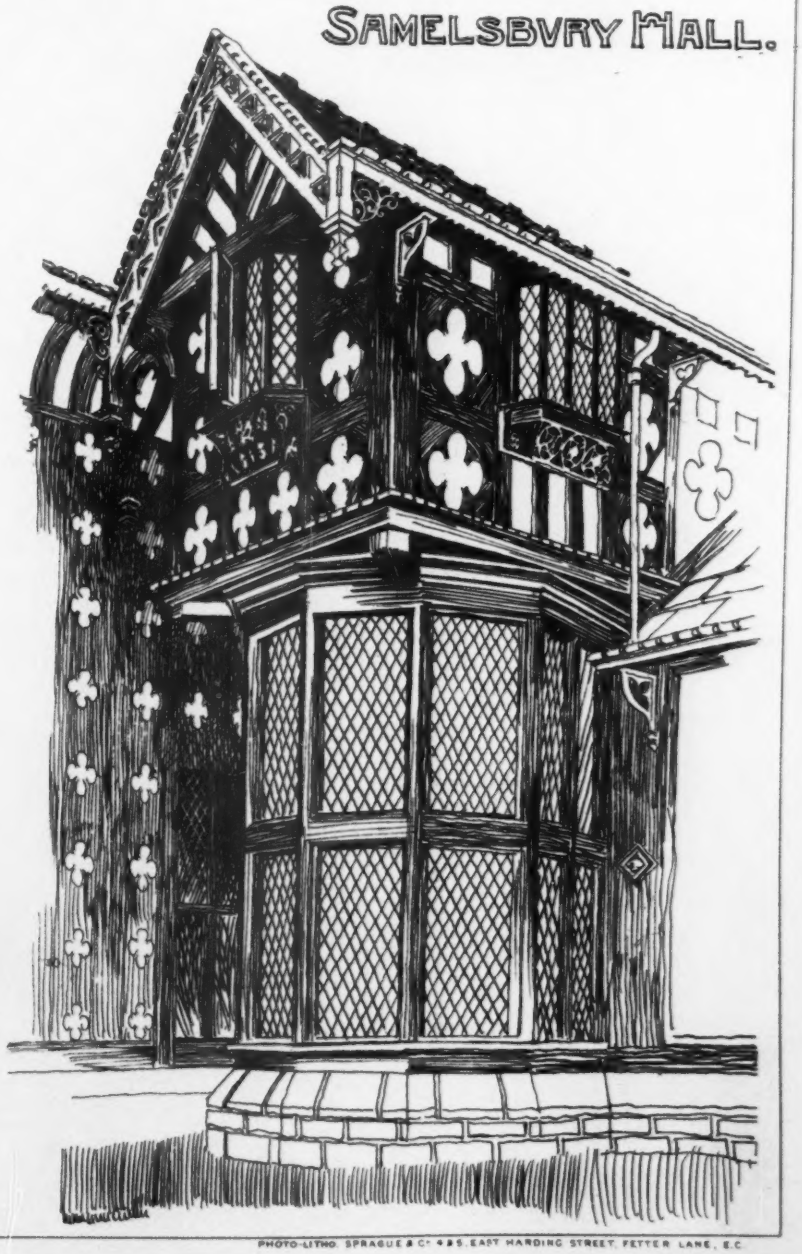
INK-PHOTO. SPRAGUE & Co. 4 & 5 EAST HARDING STREET, FETTER LANE, E.C.



KIRKBY LONSDALE CHURCH. WEST ENTRANCE



SAMELSBURY HALL.



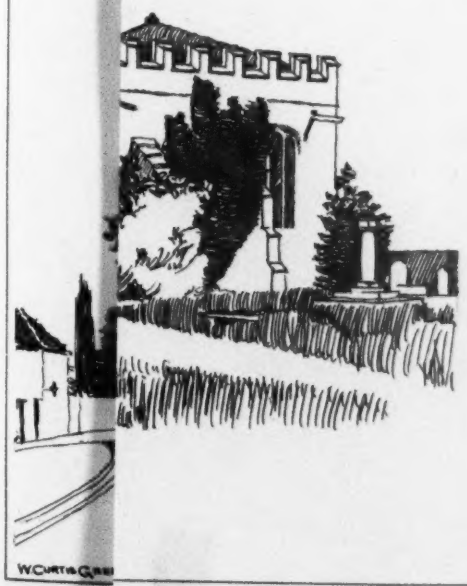
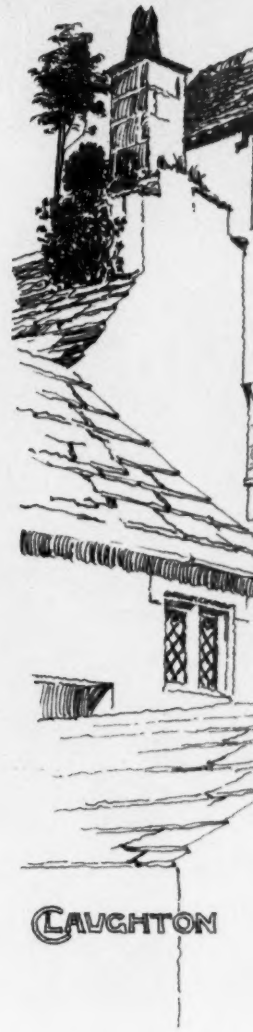


PHOTO-LITHO. SPRAGUE & Co 4 & 5. EAST HARDING STREET. FETTER LANE. E.C.

CURSION.

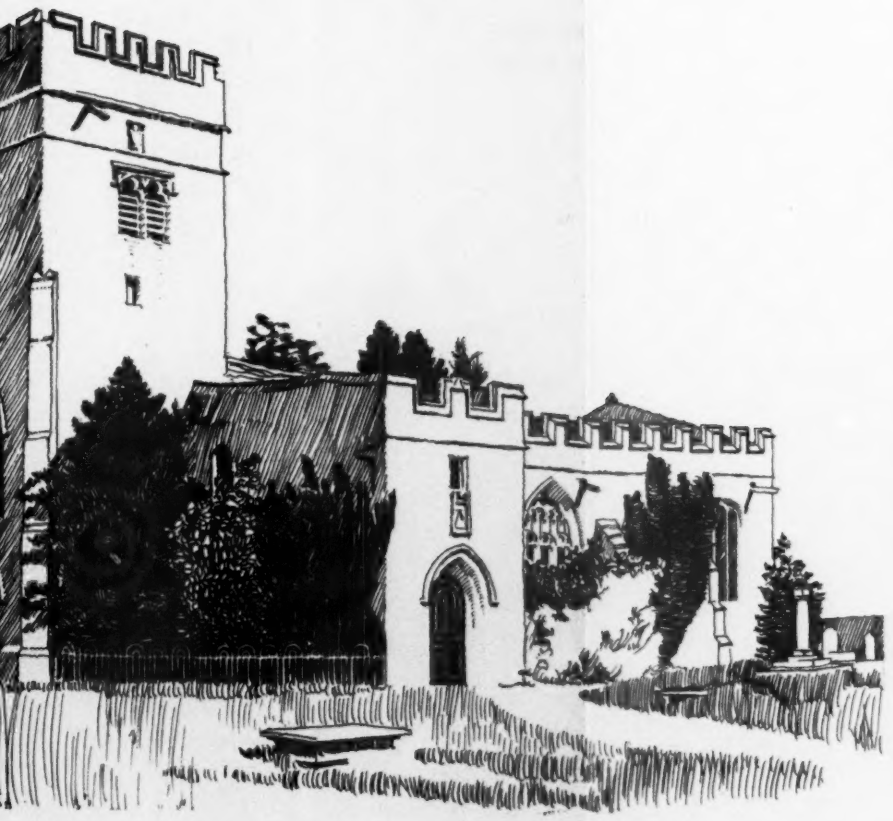
LEVENS HALL.


CAUGHTON

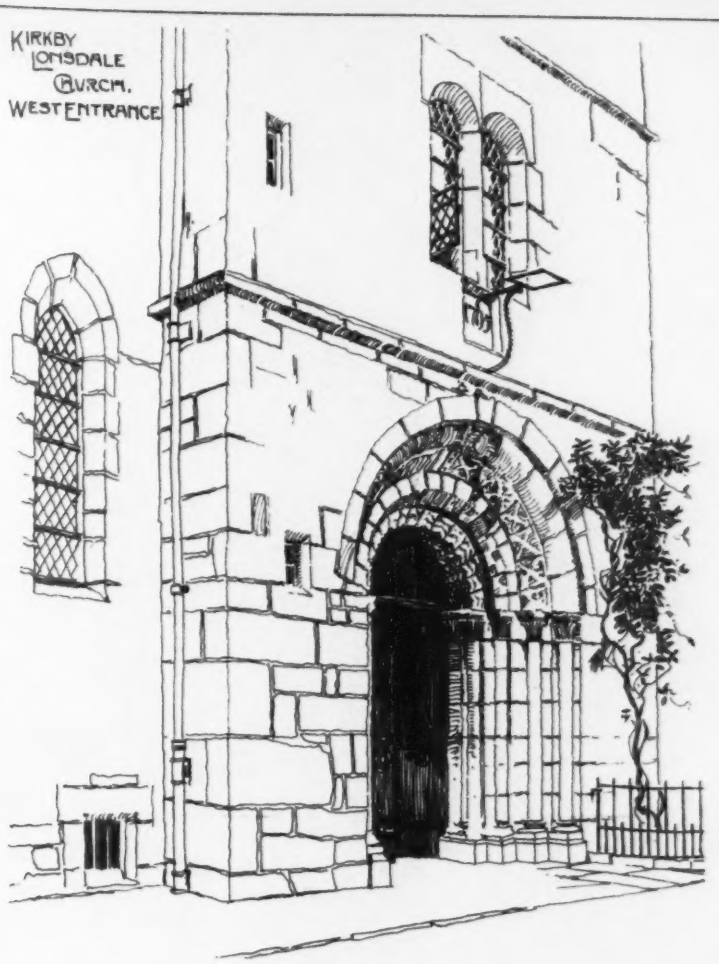
MORNEY CHURCH.
W. COURTNEY GREEN DEL. 97.

TUNSTALL CHURCH.

HTON



KIRKBY LONSDALE CHURCH. WEST ENTRANCE



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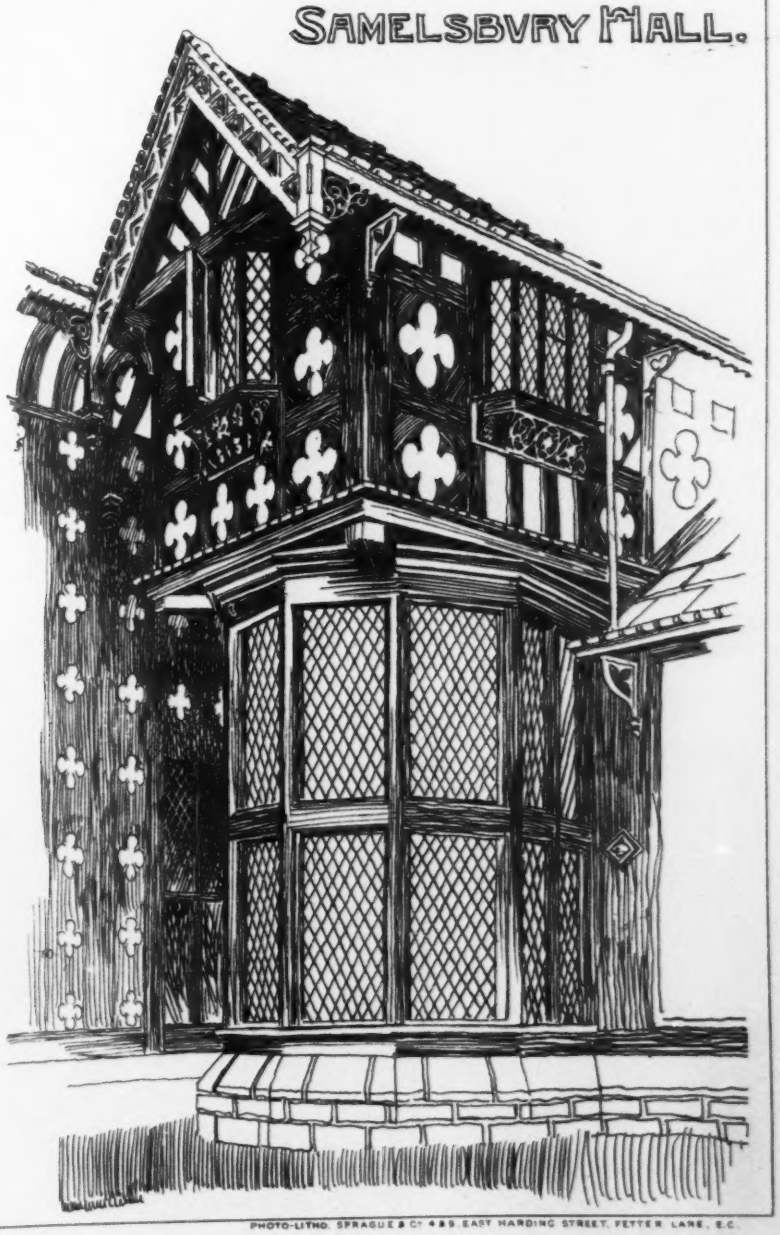
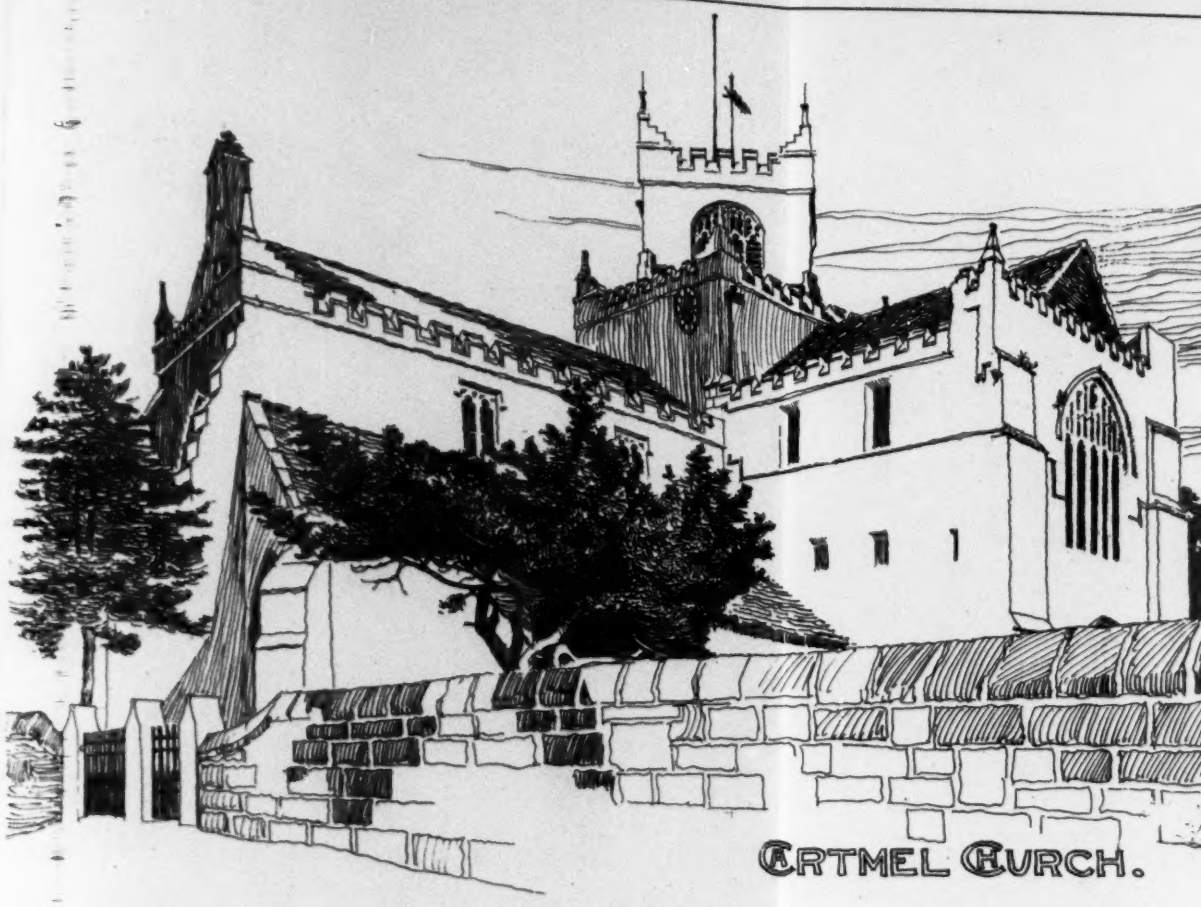
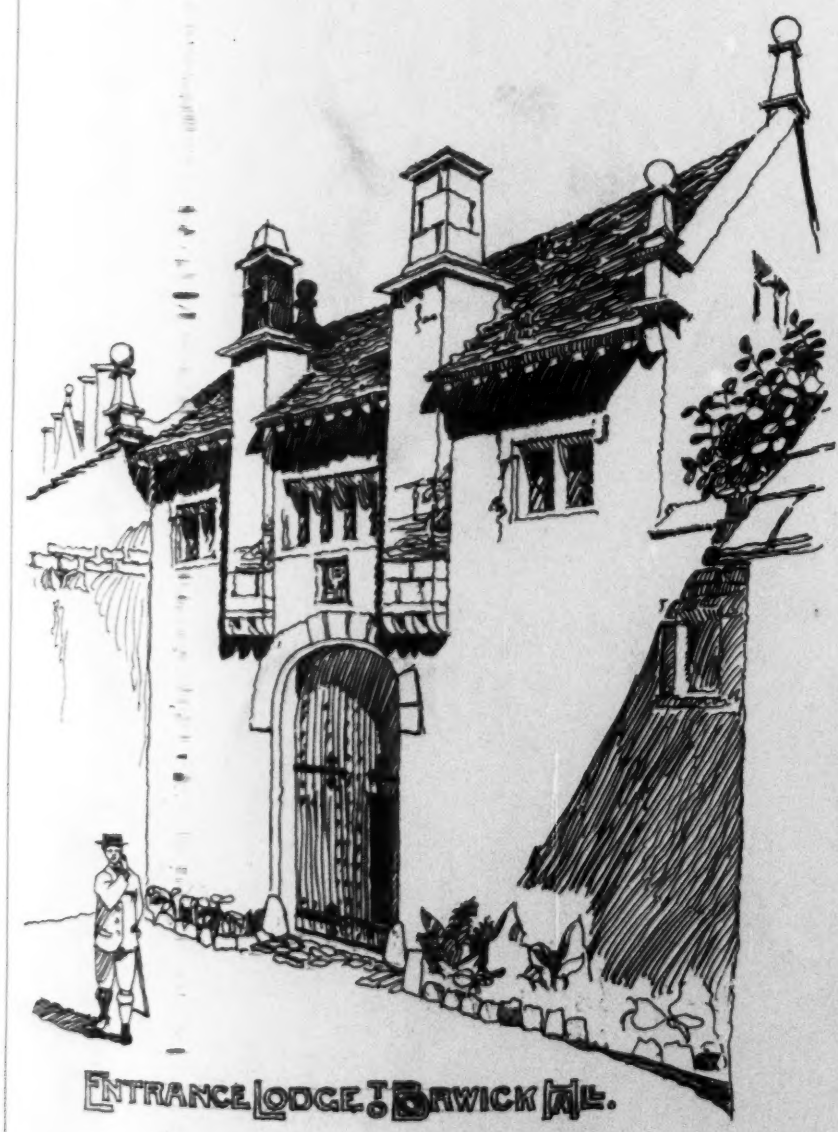


PHOTO-LITHO. SPRAGUE & Co 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.



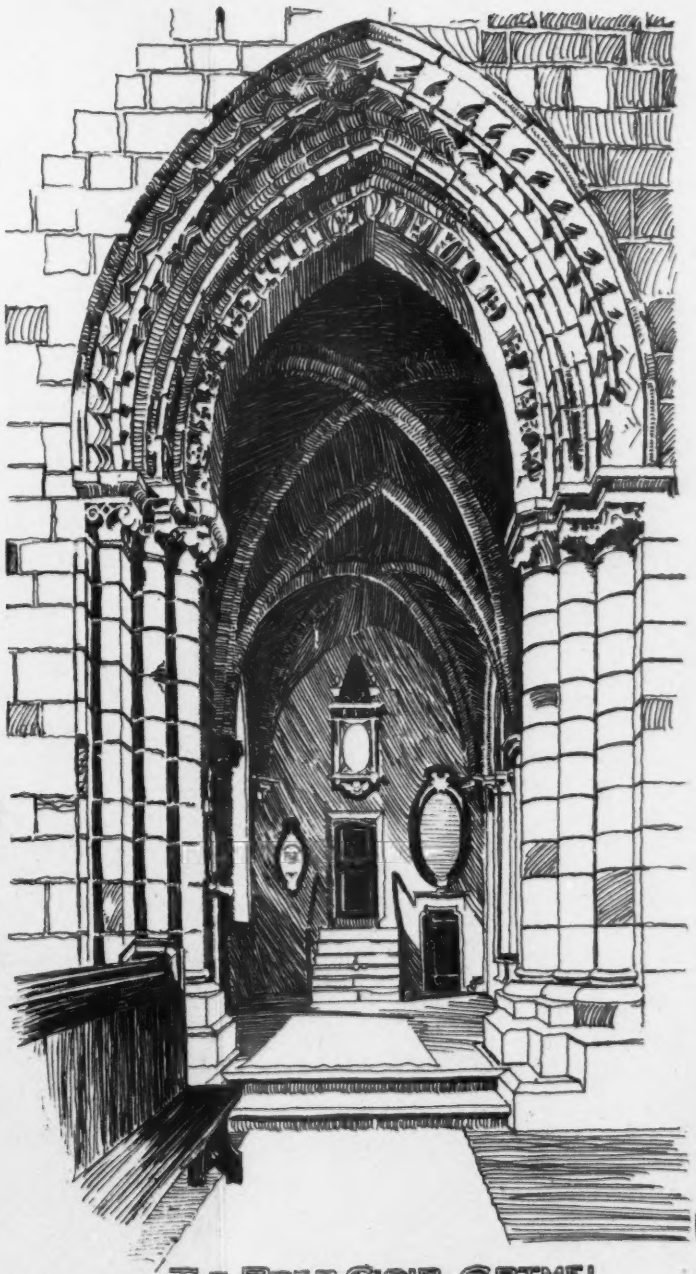
CARTMEL CHURCH.



ENTRANCE LODGE TO BRWICK HALL.

CHURCH TOWER BEETHAM

CH.



THE PIPER GOIR. GRTMEL.

CRUGHTON THE OLDEST CORNER

THURLAND CASTLE.

PHOTO-LITHO. SPRAGUE & Cº 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

exempted from its operation;" a suggestion which seems to open a dangerous prospect.

In *Knowledge* we have the second of Mr. Hill's illustrated articles on "English Medals." Other articles of interest are those on "Photographing in Natural Colours," and "Ancient Volcanoes of Great Britain," the latter illustrated with some diagrams of geological structure, &c.

The *Architectural Record* is an interesting and varied number, an article on the villas of Rome contrasting effectively with the succeeding one on the very different architectural quality of the Swiss chalet, of which some fine and very ornate examples are given. Professor Goodyear contributes a paper with the title, "A Discovery of the Entasis in Mediæval Italian Architecture." Is it a discovery? The point has not been hitherto much noticed or insisted on, but it would hardly be likely that there should not be entasis found in the columns of buildings many of which, though mediæval in date, approach so very nearly to classic forms, and with all the examples of Roman remains before the eyes of the architects. One of the best things in the number is the dry piece of irony in the shape of a letter to the editor under the title of "A Long-felt Want," which we will not spoil by quotation, but recommend the perusal of it to the imitative classic architects of the day.

The *Engineering Magazine* includes no architectural paper this month. Among its articles are "Electricity in the Modern Machine Shop," and "The Electric Plant of the Modern Tall Building."

The *Fortnightly Review* includes an article by Mr. H. Heathcote Statham on "Handel and the Handel Festivals," which gives some special information, not generally known, in regard to the actual facts of Handel's indebtedness to other composers in "Israel in Egypt," a subject on which there is a good of misconception on the part of the public and misrepresentation by critics.

Cosmopolis, the polyglot magazine containing articles in English, French, and German, includes in its English section a beautifully written article on "Rome" by Mr. Arthur Symons, well worth perusal as a literary pleasure at all events. A striking remark is that on the *modern* sound of the twelve strokes of midnight coming from the Christian churches, "as if they did but reckon the time of years, not centuries. It was Pagan Rome that lasted, and . . . . even in ruins, bows the mind before its strength, its purpose, its inflexible success." The article contains many thoughtful passages in architectural and artistic criticism. In the same magazine the Rev. W. J. Scott's article on "Mile-a-Minute Trains" is a good practical railway article, containing some interesting statistics as to speed, &c. The French and German sections do not touch upon any subjects of art or construction.

The *Revue Générale* continues its articles (by M. Périer) on "L'Art en Belgique," the article in this number being entirely devoted to the church of St. Gudule at Brussels, of which eight illustrations are given.

GATEWAY, PARHAM HALL.

PARHAM HALL is a fine specimen of the old moated Manor House. It is about three miles from the historic town of Framlingham, and it can readily be reached by rail, having a station close by. Contrary to the usual custom the builders of the hall placed it not in the valley, but on a commanding eminence, so that not only does it form a most conspicuous point of interest viewed from a distance, but the prospects from the house itself are extensive and beautiful. The Manor was granted to the Uffords, Earls of Suffolk, one of whom, William de Ufford, the second Earl, built the church at Parham in the fourteenth century. This William died without issue, leaving the estate to his sister's son, Robert, the fourth Lord Willoughby d'Eresby, the younger branches of whose family became Lords Willoughby d'Eresby, and later branches still Lords Willoughby de Broke and Lords Willoughby de Parham. William Willoughby, who made Parham his seat, was created Baron Willoughby de Parham in 1547, but on the death of George, the seventeenth Lord, without issue in 1779, the line became extinct.

The hall, a greater portion of the original fabric of which still remains, is almost surrounded by a wide moat, crossed by a small bridge, leading up to an elaborate stone-faced

The Gateway, Parham Hall, Suffolk.

gateway of fifteenth century character, the subject of the sketch. In the spandrels of the arch, and in the five traceried panels over, are shields bearing the heraldic devices of the Uffords, the Willoughbys, and the various families with which they intermarried, and over the centre of the gate the helmet and crest of the Willoughbys. The soffit of the arch is most beautifully traceried, but the face to the garden is all built in brick, and only slightly ornamented with mouldings, niches, &c., and so overgrown with ivy as to be hardly discernible. Passing through this gateway, a broad walk leads us through the inner court to the quadrangle, the three sides of which remain in fairly good preservation, though it is probable that at one time the buildings were more extensive. In the construction of the building brick, stone, and half timber are pleasingly commingled, and all are mellowed and softened by time and weather.

The arrangements of the house follow the ordinary lines of the period, but the subdividing lines and partitions are here and there altered to more modern ideas and requirements. The large hall, the chambers of estate, and the domestic portions of the building can all be traced with tolerable exactitude, and here and there scraps of panelling and ancient doors remain to indicate the style and importance of the early building. The brickwork to the windows is beautifully enriched with tracery, as also the bases of the chimneys, but here in the windows we may observe the somewhat meretricious, but oft-followed, custom of imitating masonry by coating the enriched brick mouldings with plaster, forming delusive joints and groins to heighten the imposture. In spite of this, Parham is well worthy a visit from all lovers of the picturesque and students of architecture.

THE ANCIENT "MANOR OF PARIS" GARDEN.

THE projected sale of the Christchurch Parochial Schools, Southwark, is noteworthy for the circumstance that they are situated within an area which is still for conveyancing purposes described as the Manor of Paris Garden. The manor itself was absorbed in the parish when the latter was taken out of St. Saviour's under an Act of 1670, in pursuance of the will, proved in 1631, of John Marshall, of Southwark, who bequeathed 700*l.* to that intent. According to Blount's "Glossographia," ed. 1681, the manor or liberty derives its name from the house and garden there of Robert de Paris; though it should be observed that in the Close Roll (16 Richard II., dors. ii.), which he cites, only "domum Roberti de Parys" is mentioned, being the place in Bankside, near which, by a king's ordinance of 1392, the butchers of London are to erect a house for the disposal of the City's offal and garbage. But it appears that the ground, which enjoyed manorial rights, with the holding of Courts Baron and Leet, from a much earlier period, was formerly known as Widflete, or Wychyflet, and was given in 1113 by Robert Marmion to Bermondsey Abbey. The Templars subsequently held the mills of the Abbey, and set up a chapelry there. In 1313, Edward II. gave the Knights' property to William de Montacute by name of the Manor of Wychyflet, with the mills, &c. In 1433, the Duke of Bedford is nominated "firmarius" of a certain privileged place or sanctuary "vocatum Parish Gardyn" for which he made rules and statutes, set out by Dugdale (vol. vi., ed. 1830): in the next year we read of the "molendina de Widellete cum gardino vocato Parish gardin." The mill itself stood north of the Christchurch Parochial Schools which occupy a site measuring 100 ft. by 75 ft. between Hopton's Almshouses (1731-44) and Knights-court and a large cocoa factory, on the east side of the southern limb of Holland-street (*prius* Green Walk) laid out by an Act of 33rd Geo. III. Close by stood the notorious Holland's Leaguer, whereof there is a woodcut in

a tract of 1632; see Wilkinson's "Londina," and a rarer one, showing also the Swan Theatre, in "Gotofredi, Archontologia Cosmica," fol. 1649. Turning to a plan on vellum, *penes* (1827) W. Bray, the antiquary, of Bankside, *temp.* Elizabeth, we see what is now the southern arm of Holland-street marked as the "way leading to Copt [Chapel] Hall," and the arm of Holland-street leading south-east as "Gravile-lane." At their angle are the mill-pond and the mill; the mill-pond formed the site of the Falcon glass-works incorporated by an Act of 1773, and owned by Apsley Pellatt, M.P. for Lambeth, *ob.* 1864. In the now western arm of Holland-street stands "the Cross," at the foot of "Olde Paris Garden-lane," leading to the river stairs, which lay at the spot taken in by the recent widening of Blackfriars railway bridge. A path leading westwards from the schools' site is called the "waye ledinge to the Manner Hous." Near the moated Leaguer, also known as Nob's Island, and Mock-beggars Hall, and it is believed just within this corner of the Liberty, stood the Swan Theatre, built *circa* 1596 by Langley, the ell-nager and draper, to whom Thomas Cure, the Queen's saddler had conveyed on October 1, 1589, the lordship granted to him by Lord Hunsdon, and described as: "The manor-house within the mote [? the Leaguer], the gate-house [next north of the mill], four pastures, one of which is called the Chapel Hall, or Copt Hall, with the rent of the free and copyhold tenants, amounting annually to 8*l.* 7*s.* 8*d.*" On the deprivation of the Knights of St. John (in succession to the Templars) the manor was settled in dower upon Queen Jane Seymour: in 1578 Queen Elizabeth exchanged it with Lord Hunsdon. A map of the manor, 1627, delineates the Swan as the "old play-house," due south of Paris Garden stairs, between Holland-street and Blackfriars-road; a view of its interior "ex observationibus Londinensibus Johannis de Witt" is contained in Arend van Buchell's MS. common-place book lent by Utrecht University to the British Museum in 1889.

Books.

A Key to English Antiquities: With Special Reference to the Sheffield and Rotherham District. By ELLA S. ARMITAGE. Sheffield: William Townsend. 1897.

THE leading title to this book of some 350 pages is far too ambitious. The author possesses but few qualifications for a task so difficult and comprehensive. Had Miss Armitage confined herself to a popular illustrated account of the old churches within easy reach of Sheffield and Rotherham the result would probably have been useful and acceptable, for that part of the book shows some power of observation, and a general acquaintance with the topographical literature of the district.

The chapters on Prehistoric Remains, Camps and Earthworks, and Roman Remains are far too sketchy to be of any real value or help to the elementary student, and are but a hodge-podge of conflicting statements from various "authorities." As to Moated Hillocks, which form the subject of another short chapter, the writer is bold enough to try and correct Mr. G. T. Clark (who first drew attention to these earthworks in his "Mediæval and Military Architecture") as to their probable date, and assumes they are of Roman origin. This supposition has, however, been conclusively disproved whenever they have been tested by trench digging; the fragments then brought to light have been invariably pre-Roman.

A good deal of this too pretentious book is taken up with long reflections on the "Mediæval Church and Monasticism," and kindred subjects, which have no bearing on antiquities, are in themselves crude and shallow, and only serve to expose the prejudices of the writer and her lack of power to enter into the motives and spirit of past generations. The best part of these pages is the chat on the different styles of church architecture, the leading points of difference in the mouldings, &c. of late Decorated and early Perpendicular being clearly brought out (though poorly illustrated), on the authority of Mr. Cranage, the historian of the churches of Shropshire. The general reflections on ecclesiastical details, such as low side windows, piscinæ, fonts, &c., are weak and faulty.

Many sad facts are disclosed as to the recent irreparable damage done to old Derbyshire churches by "restoring" clergy and architects, since they were described by the Rev. Dr. Cox some twenty years ago; as, for instance, the destruction of Hope chancel, and the loss of much that was interesting and historic at Killamarsh. By the bye, if this book should come under the notice of Dr. Cox, who is most liberally quoted, but always with due acknowledgment, he will be amused to find that the writer has ventured to canonise him; he is frequently quoted as "Canon Cox!" This is, of course, a trifling blunder, but it serves as a sample of much carelessness and rapidity of treatment.

The Science of Brickmaking: With some Account of the Structure and Physical Properties of Bricks. By GEORGE F. HARRIS, F.G.S., &c. London: H. Greville Montgomery. 1897.

THE author has succeeded in compressing into a very clearly and interestingly written handbook of some 150 pages, not only the leading scientific facts with which a brickmaker should be familiar if intending to work with any certainty as to his results, but also many notes of particular interest to the architect upon the durability and strength of bricks.

The opening pages are devoted to an account of the geological conditions that have formed brick-earths, and an explanation of the relative values to the brickmaker of the fluviatile, lacustrine, estuarine, and marine varieties. The mineral constitution of brick-earths is then dealt with, the component materials being individually described and their effects in the kiln explained. The later chapters are those which will more especially appeal to the architect, as they deal with the qualities of the finished brick, and the methods of ascertaining those qualities. The author here—while recognising the value of microscopic examination and of the absorption and abrasion tests—is inclined to underrate the importance of tests of direct resistance to crushing, saying that statements of "crushing weight" . . . "are in general of but little practical value," and that the question of durability is the principal difficulty of the architect. Indeed, he goes so far as to aver that, as the strength of a brick can often be inferred from its absorptive capacity, minute structure, and specific gravity taken together, therefore the strength "need not form the subject of direct experiment." His chief reasons for attaching so little importance to crushing tests seem to be—(1) the fact that in *ordinary* work "almost any kind of brick is, *per se*, strong enough"; (2) the very wide range of strength of bricks, nominally of the same class; and (3) that the published test figures are often misleading in themselves. The first point introduces the very complicated question of the differences between the strength of bricks and that of brickwork, the latter being influenced by the sizes and proportions of the wall or pier, by the bond, by the thickness of joints and nature of cementing material, and by what is usually the most important factor of all, the honesty of the bricklayer—a quality only too often non-existent. The few experiments which have up to the present been made, show that the strength of brickwork, other things being equal, increases with that of the bricks, but it is not yet shown whether there is any limit to this increase or any definite ratio between the strength of the brick itself and that of the finished work. It would, therefore, seem desirable to increase the number of tests, rather than omit them from our practice, in order to see whether on large series of tests of similar class bricks, the general results would give an approximate standard, or whether they would vary too much to permit of any useful average figures being stated.

A point of great importance in this connexion is indicated by the author when he says that to get really reliable data all tests should be under some central control, and all results published, instead of only a selection made (very often) by interested persons.

The book is full of interest to all who have to deal with bricks, and its brevity will be an additional recommendation to busy men.

The Timber Trades Journal of Shipping Marks on Deals, Battens, and other Wood Goods. 1897 Edition. London: W. Rider & Son.

THIS useful repertory of timber brands appears in a new edition brought up to date. A new feature in it is the addition of a complete list of the shipping marks on Canadian wood. Although grateful to those who compile a key list of this kind, one cannot help thinking that if timber were branded on a more rational and generally intelligible system, the marks might be self-explanatory, instead of requiring a key. The whole system (so far as it can be called one) seems rather like the cabalistic signs on a doctor's prescription, kept up to prevent the public getting too much information.

The Art of Tracing. By E. W. FRITCHLEY, Architect. Bombay Education Society's Press. 1896.

WHETHER tracing can be dignified by the name of an "art" may be questioned; but it is a kind of handiwork of considerable importance in an architect's or engineer's office, and there are right and wrong ways of doing it. For the most part Mr. Fritchley's practical directions about the preparation of pens, ink, and other materials, and the finishing up of traced copies, are sound and practical. Moreover, though the subject seems a dry one, the author is sometimes amusing, though we fear he is not aware of it; *ex. gr.*:—

"Now to turn to the use of colour from the standpoint of effect. In colouring plans and sections drawn to a small scale, the sectional parts of walls show up better, and have a greater appearance of strength, when shown in dark tints. A thin white edge left between the coloured part and the enclosing lines, tends to give the tracing a neat and finished appearance, and adds to the apparent size of the structure.

When dark colours are used in the sectional parts, it is advisable to execute the adjoining portions in decidedly lighter colours. The whole then has an appearance both of strength, produced by the darker tints, and of elegance and lightness, produced by the lighter ones."

This is really quite picturesque, one might almost say poetic.

Why a book on the practice—we beg pardon, the "art"—of tracing should come to us from Bombay is not very clear; but we presume that acres of tracing are done for what is known in India as the "P.W.D.," and it becomes therefore an important part of Anglo-Indian professional work.

TRADE CATALOGUES.

MESSRS. ADAMS & Co. send us their new and finely got-up catalogue of Sanitary and Hydraulic Ironwork. These include various forms of flushing syphon and flushing chamber, including one with a turning syphon arm, to be directed into and flush three different lines of drain successively; also a combined filter and flush tank, providing screened liquid for flushing. A new feature in the list is the "Insular" Valve, which can act either as a penstock or as a flap valve; it can be screwed tight when completely down or completely up, or left swinging as a flap valve if desired. The patent "Swivel Gulley" answers nearly the same kind of purpose as the moveable syphon leg, the outlet being capable of being turned to meet any direction of drain; but what about the turn joint, as a means of letting out air from the drain? A large number of strong and efficient penstock doors, grids, &c., are figured, and there are a number of illustrations of various installations of Adams's patent sewage lift. Altogether, the catalogue is in every respect a credit to the firm issuing it.

Correspondence.

To the Editor of THE BUILDER.

SALISBURY CLOISTERS.

SIR,—The drawing of part of the Cloisters at Salisbury Cathedral, published by you in your issue of July 31, was made by me some years ago for a "Study in Indian ink of a Gothic Subject," and has only recently been mounted.

Unfortunately, the mount covers first a scale, and secondly a note to the effect that "one bay only is from actual measurement."

I made a drawing on the spot, to inch scale, of one bay only. Later in the year, when about to redraw this single bay for a "testimony of study," it was suggested that more bays should be shown, to give a better idea of the general effect.

This I did, not remembering that the bays had almost invariably five and six-foiled heads alternately, although in at least two cases the bays forming the angles *are* identical in detail.

In short, the drawing was made for a special purpose; no measurements were figured on it, and it was a shaded Indian ink drawing.

It did not profess to be a measured drawing of "three bays," and was not so entitled.

GEORGE O. SCORER.

*** Referring to our view of Salisbury we see that the bays adjacent to the north-east angle of the cloister would both have pentagon cusping; and as the number of bays on each face is equal, that

would mean that another adjacent angle would have them the same; that is, the alternate treatment runs through each face of the cloister separately, not right round. That is quite different from showing three bays in the same plane similar. The incident shows the danger of *assuming* things without reference to the building.—ED.

SURREY ARCHÆOLOGICAL SOCIETY.

SIR,—I observe in your account of the doings of the Surrey Archæological Society that Mr. W. W. Pocock is represented as dead. I should be glad if you would kindly correct this in your next issue, as I am happy to say that my grandfather is still alive, and, although considerably over 80 years of age, still enjoys the best of health.

A. WILLMER POCOCK, JUN.

ADVERTISING FOR HANDS.

SIR,—In your last issue there appeared the following advertisement:—

"Painters, &c., wanted.—Apply on or after August 9, to Foreman on Works, Eaton Tower, Caterham. London Prices."

I, with some others, thinking that London men would be wanted, paid for a 2s. 6d. return ticket, feeling sure we should find a job. We waited some hours, when, to our astonishment, we saw about a dozen men come down from the London works; quite enough to do the work. But what makes the thing more strange, we were informed that an advertisement appeared in the Croydon locals which resulted in bringing together some thirty men from London and district, spending their money, and also losing the best day of the week.

A VICTIM.

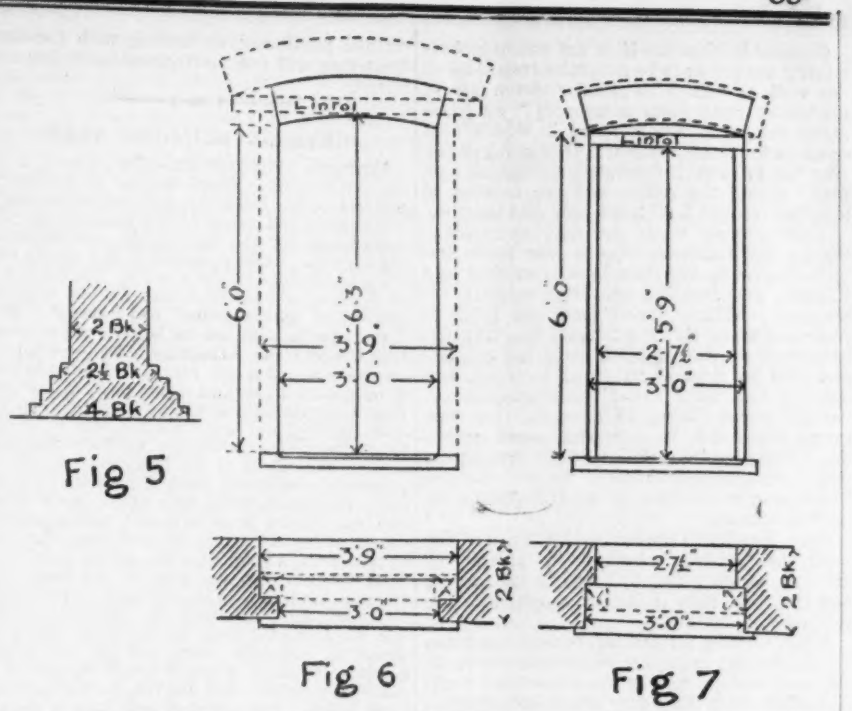


Fig 5

Fig 6

Fig 7

The Student's Column.

QUANTITIES AND QUANTITY-TAKING

CHAPTER IV.—MODES OF MEASUREMENT.

Bricklayer's Work.

BRICKWORK walls 1 brick (9 in.) thick and over are taken at *per rod superficial* (272 ft.) reduced to 1½ bricks (13½ in.) thick. Half brick (4½ in.) walls are measured *per foot superficial*, as are also brick walls where they are faced both sides, the reason for this in the latter case being the extra labour in selecting the headers so that they present a level face on both sides with the stretchers, this is especially the case with glazed work. It is well, in the event of bricks from unknown localities being used to obtain particulars as to thickness as this affects the dimensions of stonework, the bricks in different localities varying for four courses in height from 10 in. to 1 ft. 2 in.—the usual height in London and neighbourhood being four courses to one foot.

In the provinces the brickwork is frequently reduced to 1 brick thick and billed at *per yard superficial*.

In measuring the height of a wall which is topped by a wood plate measure to the top of the plate where this does not exceed 3 in. in thickness to pay for the cost of bedding plate. If more than 3 in. allow 3 in. only beyond net height of brickwork.

Allow 3 in. for the waste in cutting up the rake of a gable.

To arrive at the thickness of the footing courses take the average between the bottom and top courses of the footings. Example: 2 brick wall with four courses of footings:—

Example. Top course. 2½ Brick.
Fig. 5. Bottom course. 4 Brick.

2)6½

= 3¼ Brick average.

Unless shown (intentionally) or specified to the contrary, take one course of footings to each half brick in thickness of the wall.

In abstracting brickwork it is usual to have columns headed "1 brick" and "1½ brick" respectively, with their corresponding deduction columns, and all thicknesses are reduced to one or the other of these thicknesses—*e.g.*, 3 brick, the dimension would be twiced by the abstractor, and the result put into the 1½ brick column; 2½ brick, the dimension would be put in both the 1 and the 1½ brick columns. Reductions for other thicknesses will readily occur to the surveyor.

In measuring, to take the length of the walls across the openings, and irrespective of chimney breasts and other projections. Projections are taken afterwards and openings deducted when the work to the openings is taken.

It is well when measuring brickwork (to avoid complications) to take the brickwork up to defined lines. The first (say) up to the general basement or ground floor level, and then generally floor by floor to the top; the projections being taken with each floor.

Note in taking brickwork from floor to floor, that the chimney breasts are large enough to include the number of flues necessary, and also examine drawings to find whether it is necessary to take arches to carry the flues from one point to another. The architect will expect the surveyor to notice any omission of this character.

It frequently occurs that a chimney breast commences at a level above the ground, or is wider on one floor than on the floor below (owing to the increase in the number of flues). Take York (or other hard) stone corbelling to carry this chimney breast, or the extra width, as the case may be, if it is more than can be corbelled out in brickwork.

Keep the brickwork behind stonework separate, and describe as "in backing to stonework, including cutting up to same."

Brickwork in raising to old walls is kept separate from the remainder and described as such to enable the contractors to put down such a price as will pay for the *extra* scaffolding required owing to the fact that the scaffolding has to commence at a lower level than the brickwork and therefore the proportion of scaffolding for brickwork in raising is larger than that required for brickwork commencing at the foundations.

Take a superficial dimension, *i.e.*, the length by the thickness of the walls raised as "preparing tops of old walls to receive new work."

Brickwork on girders should also be kept separate for the same reason as brickwork in raising.

Brickwork in cement, unless the whole of the brickwork is in cement, is measured first as brickwork in mortar and another measurement taken of the portion built in cement as "Extra value only for reduced brickwork being in cement." Frequently in writing the dimensions it will be found that some dimensions may be booked as "Brickwork in cement," in this case the item is abstracted in the columns both of "brickwork in mortar," and also of the "Extra value in cement."

Deductions of Brickwork for Window Openings.—For sashes and frames:—Take deduction of the outer thickness up to the face of the frame, the size shown from top of sill up to the average of the rise of the arch (if the arch is of very flat sweep up to the springing only), and the remaining thickness a dimension 9 in. wider and 3 in. higher than the outer thickness.

Example (Fig. 6):—

3.0 6.0		Deduct ½ brick.
3.9 6.3		Deduct 1½ brick.

In the event of the frames showing the full width outside, as is frequently the case in the prevailing style of architecture, the recess is usually not more than 2¼ in. wider on each side, in this case the order is reversed and the larger deduction is taken outside. Example (Fig. 7):—

3.0 6.0		Deduct 1 brick.
2.7 5.9		

For solid frames and casements:—The deductions are taken as for sashes and frames, but the internal thickness is deducted 4½ in. wider than the external instead of 9 in.

For window backs:—Take the additional deduction from the bottom of previous deduction down to the floor, of the depth of the recess.

For Doorways.—If with linings take the deduction 3 in. wider and 3 in. higher than the size of the door, but if with solid frames take the deduction as described to solid frames and casements.

The deductions for stonework will be dealt with in the "Mason."

For Fireplaces and Recesses the sizes and depths shown. If recesses with semicircular heads, take up to the springing in one dimension, and the remainder as a semicircle, as described in Chapter II.

Example: A recess 1½ bricks deep, 3 ft. wide, and 6 ft. to springing, *i.e.*, 7 ft. 6 in. to crown, would be booked as follows:—

3.0 6.0		Deduct 1½ brick.
3' 0"		

The arch and centering to be taken here as will be described under their respective headings.

Note.—That brickwork is taken across the recess to allow of this deduction.

No deductions are taken for flues unless of exceptional size.

Hollow Walls.—Take the brickwork of the combined dimension of the two thicknesses; thus a hollow wall formed of a 1 brick and a ½ brick is measured as a 1½-brick wall, and the hollow measured separately *in yards superficial*, as "extra to forming hollow, &c.," stating the width of the cavity, the description of the ties, and the distance they are apart.

Deductions for openings are usually not taken in this item, but are allowed to set against the material (forming stops to hollows around) and labour in forming the openings.

Note.—The brickwork below a hollow wall is a ¼-brick (2¼ in.) thicker (the hollow generally being 2 in. to 2¼ in. wide) than for a solid wall of the same number of bricks in thickness, and, unless specially figured or described, allow this extra on the digging and concrete.

Circular Brickwork.—If of flat sweep (not requiring the bricks to be cut), take both sides of the wall as "extra to circular rough face of brickwork (both faces measured)" *in yards superficial*, except where faced, in which case describe the facing circular. If of quick sweep take the brickwork separately as "circular on plan," giving the radius and the number of templates required, with the radii and lengths.

Thickening old walls, per foot superficial.—Stating the thickness up to one brick and including with the item labour, cutting and toothing and bonding and extra material for bonding. Where more than one brick in thickness as in chimney breasts, &c., take the brickwork allowing ½ brick extra for bonders and take an item of "cutting, toothing, and bonding new work to old" *per foot superficial*, the brickwork being billed with the bulk except where it is in somewhat small quantities, when keep separate as "built against old walls in (chimney breasts, &c.)." Note.—Thickening and work next old walls should be built in cement.

Brick Vaulting Trimmer Arches, &c., per foot superficial, stating whether in mortar or cement. Groin points in vaulting take at *per foot run*, and state if fair or rough, and the thickness of vaulting.

Rough Cutting, per foot superficial to be taken up all rakes (as to gables), skewbacks for vaulting and arches, and splays over 6 in. wide, deductions from this being made for cutting in face work as described to cutting in facings.

Fair Face and Limewhiting (or Distempering) per yard superficial.—Take the surface shown describing the joint. If to soffit of vaulting describe as "cleaning off soffit of vaulting, pointing, and (once or twice) limewhiting (or distempering)."

Damp Course, per foot superficial, stating whether slate or asphalte. If of slate state the number of courses (of slate) and if a cement bed between, the thickness of bed. If of asphalte describe make and thickness, and include running rules with the description.

Vertical Damp Course, per yard superficial.—Describe make and thickness, but as vertical asphalte is frequently put on in two thicknesses, state if this is so, and the total thickness, and include in the item for raking out joints to form key.

Cement Weatherings, per foot superficial.—If 9 in. wide or over, if under this width, *per foot run.*

Rough Oversailing Courses, per foot run.—Taking each course.

Raking out and Pointing to Flashings, per foot run, keeping that to stepped flashings separate.

Squints, Birdsmouths, Chamfers, &c., per foot run.—If plastered, describe as "rough;" if exposed, as "fair."

Chases for Pipes, per foot run, stating the size, and if in new or old walls.

Cutting, Toothing, and Bonding, per foot run, stating the thickness of the walls.

Cutting and Pinning Edges, per foot run.—State thickness, if stone or slate, and if to fair brickwork or facing.

New Piers on old Wall, per foot run, giving the size and including "cutting, toothing, and bonding, and extra materials for bonders" with the item.

Flue Pipes, per foot run, giving diameter and description, and stating how jointed, and include cutting and fitting brickwork around.

Numbered Items—Cutting and Pinning Ends of Timbers.—Take these only when not built in as the work proceeds.

Ends of Rolled Joists and Girders.—State if to fair brickwork.

Ends of Steps.—Take these cut and pinned or built in and made good to. State if in facings.

Holes through Walls.—State if for lead or drain pipes. If for drain pipes state if eyelets turned for these. State also if brickwork is faced (and the description of facing) one side or both sides, and give thickness of walls.

Small Corbels under ends of timbers, &c., taking as labour and materials and giving the size.

Discharging Arches or Arches over Internal Openings.—Take as extra over ordinary brickwork, and give lengths and average same on abstracts keeping flat, segmental, elliptical, and semicircular separate, and state whether axed on in rings, and give in addition to the length the width of soffit and the height, and state if they include cutting.

NOTE.—That for relieving arches over lintels, cutting must be taken to soffit as well as crown. If in cement take this as an "extra" as described previously, or include with the item. Centering will not be required for arches over lintels.

GENERAL BUILDING NEWS.

HOSPITAL, PORTSMOUTH.—On August 7 the foundation stone of a large hospital at Portsmouth was laid by the Duke and Duchess of Connaught. The building will consist of four ward blocks, with departments for the out-patients, administration, and laundry. At the present time two blocks only are to be erected—Blocks A and C. The exterior of the building will be faced with the best local red kiln bricks, with "quoins" and "reveals" in a darker cherry colour, and the hospital will be roofed with Bangor slates. There are to be two chimneys on each side, and a fifth and sixth for the heating furnaces form an arch across the gable of the roof. The two sanitary blocks are quite distinct from the main building, and are connected with it by corridors on each floor, with open air spaces above and below. The whole of the building is raised, the ground floor being 5 ft. above the surface level, the space underneath being quite open. Each of the two new blocks is to be in two stories, and will consist of one main ward on each floor, 87 ft. long by 28 ft. wide, a small ward for special cases, and a ward kitchen. To the rear of the wards will be the sanitary blocks, comprising the baths, lavatories, &c. In Block A, which eventually will be connected with all the other wards by means of corridors, there will be a hydraulic elevator, by means of which it will be possible to convey the patient—bed and all—to the operating room below. The corridors will have a dado of coloured glazed bricks, and the wards will be plastered with selenite mortar finished with Keen's cement and painted, while the sanitary blocks will be built of cream glazed bricks throughout. Each ward will be heated by two of Teale's patent stoves, with descending flues, the smoke being directed downwards through the thickness of the floor to the chimneys outside the building. In addition to these stoves, the building, including the corridors and sanitary blocks, will be warmed throughout by hot-water pipes. The floors will all be of fireproof construction and faced with Venetian granito marble mosaic. The fireproof floors will be supported by rolled steel joists with tubular lintels resting upon the lower flanges. Over the lintels the space will be filled up with furnace breeze concrete, finished to a smooth surface to receive the mosaic pavement. The main blocks will be connected with the existing building by means of temporary corridors; and at present it is only intended to build one staircase wing, which will connect with Block A, while a temporary wooden staircase will connect with Block C. The building will be lighted throughout by electricity. Each block will be protected by two lightning conductors, and each ward will be in telephonic communication with the main building. The contract price of the works is 19,298*l.* Mr. J. H. Corke is the builder, and Mr. C. W. Ball the quantity surveyor. The architects are Messrs. Young & Hall, of Bloomsbury.

COTTAGE HOSPITAL, ASHBY-DE-LA-ZOUCH.—On Friday, August 6, the foundation stone of a cottage hospital was laid at Ashby. The site is at the north-east corner of the old cricket-field, Leicester-road. In front of the building there will be a verandah with glass roof on iron girders and skylight bars; opening out of this is the main door leading into an entrance lobby and spacious hall, with staircase to the upper floor. Right and left of the lobby are doors opening into the matron's room on one side, and the nurses' on the other. At each end of the hall are the doors opening into the female ward, and on the left into the male ward. Adjoining these are the lavatories, disconnected from the wards by cross ventilative lobbies. The wards are constructed for four beds each, with a cubic capacity of 1,200 ft. of air space for each patient, with an occasional addition of an extra bed or child's cot. On the left-hand side of the hall is the surgeon's and operation-room, and on the right a bathroom and stores; from the hall a central passage leads to the spacious kitchen and offices and to the back entrance. A mortuary will be built on the extreme boundary of the eastern side of the premises. The central block will be carried up two stories, and contain three bedrooms for the staff, and occasionally one can be used for a separation ward. The front and sides of the building will be faced with Whitwick hand-dressed bricks, with stone dressings, gauged brick arches, the roof covered with Broseley strawberry-coloured tiles, red cresting and finials. The plans and specifications of the hospital were prepared by Mr. G. H. Lilley, town surveyor of Ashby, and the contract by Messrs. W. M. Slater & Son, of the same place, for 1,045*l.*, has been accepted.

COTTAGE HOSPITAL, EMSWORTH.—The foundation-stone of this building, which is to be known as the "Victoria Cottage Hospital" was laid on Saturday, August 7. The plans provide, on the ground floor, a kitchen and scullery, a matron's room, and a room which will be used as a day room, a committee room, a doctor's room, and a hall. By a wide staircase the first floor will be reached, where there will be a ward of three beds for men and a similar ward for women, and the matron's bedroom, the windows on each side looking into the wards. On the second floor will be the operation room, well lighted, an emergency ward, the servants' bedroom, bath room, &c. Mr. W. Poate, of Westbourne, is the builder; and the architect, Mr. John Birch, of John-street, Adelphi, W.C.

POLICE-COURT, HIGHGATE.—The foundation stone of a police-court, at the corner of Bishop's-road and Archway-road, Highgate, was laid on Tuesday, August 3. The accommodation on the ground floor of the building will consist of solicitors' room, clerk's room, and public waiting rooms for men and women, cells, and caretakers' quarters. On the first floor there will be two courts, with consulting room and magistrates' room. The edifice will be built in red brick, with stone dressings, and is estimated to cost 6,000*l.* The builder is Mr. Goddard, of Farnham, and the architect Mr. F. H. Pownall.

CO-OPERATIVE STORES, PITTINGTON, CO. DURHAM.—On Saturday, July 31, new premises for the Pittington Amicable Industrial Society were opened. The butchering premises are in two blocks. Facing the main road is the shop, with hall and committee-room above, and boiler-house, containing three boilers, hunger-house, and small cart shed for loading behind, whilst the other block consists of stables, cart sheds, and a hay-house. The hall has a frontage of 33 ft. The exterior of the building is built of red brick, relieved with red terra-cotta bricks in place of stone. The stables are about 100 ft. long and 36 ft. wide. Inside they are cemented with plaster, with pitch-pine stall divisions for ten horses, and metal stable fittings enamelled. The floors of the stables are cemented squares, covered with slates. The harness-room and appurtenances are thoroughly well fitted up. The stables are divided off for ten horses, whilst the cart sheds will accommodate about fourteen vans and carts. The contract price was 2,130*l.* The builders were Messrs. R. Draper & Son, of Leamside Station. The architects were Messrs. J. & R. Milburn, of Fawcett-street, Sunderland.

FREE CHURCH, CUMNOCK, N.B.—This church, the memorial stone of which has recently been laid, is of the truncated cross form, the end of the longer arm fronting the Ayr road. The elevation has a central high-pointed gable finished with an ornamental cross, with a buttressed tower surmounted by a spire on one side and a smaller gable relieved by buttresses terminating in ornamental pinnacles with carved finials on the other. The main entrance door is in the centre of the front gable, and will be approached by a flight of steps, and having on either side lancet-headed windows for lighting the corridor. The arched head of the doorway is filled up with moulded tracery work, and the door jambs have granite columns with carved capitals and deeply-moulded arch stones above. Above the front door and side windows are gablets flanked by slender buttresses with pinnacles and carved finials. The front gable is pierced by two two-light large windows filled with arched tracery, while above these is a large circular window with moulded flowing tracery. The wall to the left of the main gable is relieved by two-light windows, having their arches filled with tracery work, and a trefoil moulded sunk band is carried across the lower portion of the gable head. The tower and spire rise to a height of 140 ft., and the angle buttresses of the tower terminate in moulded pinnacles with finials and carved crockets. Underneath the cope stone of the tower is an ornamental band of lancet-headed cusped sunk perforations. The tower is divided into four heights by means of string mouldings, three of which are relieved by windows having arched and cusped heads with hood mouldings and terminations, the upper tier consisting of a large two-light window, while the lower division contains a panel and carved shield. From the top of the tower springs an octagonal spire, the lower portion of which is pierced on four sides with high window openings with traceried heads surmounted by high gablets, and flanked on each side by slender buttresses with carved finials. The other four sides have large octagonal pinnacles at the tower corners, with moulded sunk work in gablets on each face and carved finials above. The side elevations will be pierced by large four-light and three-light windows filled with mullions and tracery work. The style of architecture adopted is ornamental Gothic, and the flowing window tracery partakes somewhat of the Flamboyant style. Internally the church will have a front entrance corridor 8 ft. 6 in. wide, at one end of which is placed the session-room, with class-room above, while the tower at the other end contains the gallery stair, with side entrance door. The nave will be 44 ft. wide, and the transepts 52 ft., with a length from front corridor to back wall of apse of 68 ft. The back wall will be broken up by an opening 27 ft. wide, beyond which will be placed a raised platform containing the pulpit and elders' seats; and still farther back there is to be an apse, with a stone arched moulded opening, which will provide accommodation for organ and choir, and will be lighted by means of three two-light windows. There will be no side galleries, although they may be afterwards added if necessary, but the space above the front corridor will be utilised as a gallery. The church will seat about 500 persons, and behind the church there will be a hall which will hold 150, with separate entrance and a door from the pulpit

platform, besides a waiting-room. The vestry will also be placed at the back, with an entrance-door, porch, &c., from the manse adjoining. The roof of the church will be lined with pitch-pine, and open to the collar beam, and the pews will also be of pitch-pine with moulded ornamental ends. The roof principals will spring from carved stone corbels, with ornamental curved bracket supports. The church and hall will be heated by hot-water pipes. The contractors are all local men; the architect is Mr. D. Menzies, York-place, Edinburgh.

BUSINESS PREMISES, HIGH-STREET, SHEFFIELD.—These premises, now in course of erection, occupy an area of over three-quarters of an acre, having a frontage of 173 ft. to High-street, 200 ft. to Mulberry-street, and a cart entrance to Norfolk-street. The frontage to Mulberry-street is to be improved by the addition of a covered footpath 6 ft. wide. The total area of all the floors is about three and a half acres. The basement is to have show rooms the whole length of the two frontages. The ground floor is 150 ft. wide and 200 ft. long, without any internal walls, and is divided into six sale shops, each 25 ft. wide and 200 ft. long, by columns. The first floor is one show room, equal in area to the six sale shops, but with well-holes for admission of light to the ground floor. As designed, part of the first floor is set apart for refreshment and dining rooms. At the back of the sale shops is a covered yard, with rooms for the receiving, marking, and dispatch of goods, and above them and on the level of the show room is the counting house. Two floors of workshops are to be placed over the back part of the show-room. The upper part of the front building is house accommodation for the whole of the assistants, and bedrooms for 120, to which there are two fire-proof staircases. The whole of the floors are of Stuart's Granolithic fire-proof construction, and there are balconies to every window for escape from fire. There are to be two large elevators from the ground floor to the basement and to the first floor, two elevators for goods, and one for the kitchen. To avoid obstruction of the show windows by iron or stone pillars the upper part of the building has been set back 3 ft., so that for the 372 ft. of frontage there is no greater obstruction to the show of goods than the 1½-in. wooden window bars. The upper part of the building is to be of Huddersfield stone. Messrs. Flockton, Gibbs, & Flockton are the architects, and Messrs. Longden & Son, general contractors.

ISOLATION HOSPITAL, MOGDEN, ISLEWORTH.—The foundation stone of this hospital was laid by the Duchess of Teck recently. Provision is made in the building for forty-six beds, of which twenty-two are in the large fever ward, twelve in the small fever ward, four in an isolation ward, and eight in the convalescent ward. The entrance gates and lodges are placed at the end of the road by which the site is approached, and a forecourt leads centrally to the administrative buildings. On the right, at the north-east angle of the site, and near the entrance, is the convalescent home and discharging rooms, whilst deeper in the site towards the north is situated the small fever pavilion. The large fever pavilion is to the left of the administrative buildings, and midway between this and the small fever pavilion is the probationary block. These three pavilions have been planned so that they can be easily connected with the administrative block by means of covered ways, and wide roads for the ambulances lead from the gates to these buildings. At the extreme left of the site is placed the mortuary and post-mortem building, and to the right of this are the stables, laundry, disinfecting building, and the ambulance shed. Each pavilion is placed on a raised platform or terrace, and 1 ft. above this is the general ground floor level of each ward. This will give a slight slope all round the pavilion, and by this means security from damp is obtained. In the fever pavilions, besides general wards, provision has been made in separation wards, either for paying patients or for acute cases where separation from the noise of a general ward is necessary. The contract price is 13,598*l.*, which also includes road works, &c. The contractors are Messrs. J. Godson & Sons, of Kilburn. The architect is Mr. W. J. Ansell, of Staples Inn, London.

ADDITIONS TO WORKHOUSE, LICHFIELD.—Applications were received from twenty-seven architects to advise the Guardians upon the proposed alterations and extentions to the Workhouse. Mr. W. H. Woodroffe, London, was appointed. The Workhouse, which is situate in the Trent Valley-road, was erected in 1840, and was designed by Sir Gilbert Scott. It is of picturesque appearance, in red brick and stone, and small windows with iron diamond-shaped casements, which, for a workhouse, are not conducive to healthy rooms, and, though of quaint appearance, are to be removed.

ST. STEPHEN'S CHURCH, NEWPORT, EAST YORKSHIRE.—The foundation stone of this chuch was laid on August 6. The building will consist of nave and aisles, short transepts, chancel and aisle. The tower is to be at the west end of the building, and will form the main entrance to the church; the vestries are on each side. The large east window of the chancel has five lights, and will be filled with stained glass by Messrs. Clayton and Bell. The chancel is to be fitted with stalls and prayer desk in oak, and the chancel screen and pulpit will be of similar material. The roof is to be open timbered, and the chancel ceiling will be panelled. The church is intended to seat 300 persons, and is to be built of brick, with stone dressings. Closely adjoining the church the vicarage is being built. It is also of brick with stone dressings, and the roofs are to be tiled. Both these buildings are being carried out from the plans of Messrs. Smith, Brodrick, and Lowther, architects, of Hull, and the contract for the church has been let to Mr. Frank Pattison, of Ruskington, Lincoln, whilst the vicarage is being built by Messrs. Kelsey & Son, of Goole.

ST. MARY'S CHURCH, SWANSEA.—The ceremony of opening the new nave of the parish church of St. Mary, Swansea, was performed on Thursday, August 5. The old nave and the aisles were built in 1745, but the chancel and the Herbert Chapel are parts of the original early English edifice, most of which fell to the ground in 1739, whilst it was undergoing repair. The building fell rapidly into decay, and it was decided to rebuild it. The section just opened, consisting of the nave, has cost 14,000*l.*; the chancel and tower yet remain to be dealt with. The new church is faced externally with local stone, with Bath stone dressings, and internally entirely with Bath stone. It has a lofty nave arcade, with attached stone shafts carried up to the roof, and supporting the principal rafters. The whole of the roofs are constructed of English oak, with some chestnut, covered with the best Westmoreland slates. The internal dimensions of the new nave and aisles are as follows:—Length, 111 ft. 6 in.; width, 66 ft.; height to wall-plate, 40 ft.; and to ridge, 62 ft. This is an addition upon the old nave of 33 ft. in length, 6 ft. in width, and 22 ft. in height. The chancel will be built in the same style as the nave, with spacious vestries and a lofty tower, 30 ft. higher, in which will be rebuilt the existing corbels under the parapet of the present one. The stained-glass windows in the chancel, and the canopy and effigy will also be preserved and re-erected. It is also intended to restore the Herbert Chapel, the arch leading from this to the new north aisle is the ancient one rebuilt. The floor of the new nave has been laid 2 ft. 6 in. above the old floor, and the ground outside in the yard has been raised accordingly. The principal carving, which has been done by Nicholls, of Lambeth, consists of our Lord in majesty on the vesica over the south porch door, and of our Lord and the four Evangelists over the west porch. The work of rebuilding is estimated to cost at least 25,000*l.*, after the designs of Sir Arthur Blomfield.

SCHOOL BUILDINGS, KETLEY, SALOP.—The foundation stone of a board school at Ketley was laid on Friday, July 30. The building is intended to accommodate about 350 children; and the estimated cost is £2,800. The builders are Messrs. R. and J. Millington, of Oakengates; and the architect Mr. Dalgleish, of Wellington.

CATHOLIC SCHOOL AND CHURCH, BURSLEM.—The foundation stone of the Catholic school-chapel, in course of erection on land off Hall-street, Burslem, was laid on Monday, August 2. The buildings are in two stories, the school being on the ground floor and having two departments, one of which will accommodate 130 infants, and the other a mixed school for boys and girls, accommodating 224 children. Over the school will be a temporary church, which will accommodate 368 persons, and a choir of eighteen in the sanctuary. The buildings will be of a simple character, in red brick. It is intended at some future time to erect a church on land adjoining the present structure. The contractor is Mr. Wm. Cooke, of Burslem; and the architects, Messrs. R. Scrivener & Sons, of Shelton.

SCHOOL BUILDINGS, WEST DEAN, CHICHESTER.—The ceremony of fixing a terra-cotta medallion portrait of the Queen in these buildings, which are nearly completed, and will be opened by the beginning of next year, took place on Monday, August 2. The building will include a large "mixed" schoolroom, 51 ft. by 22 ft., boys' and girls' classrooms, infants' schoolroom, teachers' room with book and stationery store-room over, and lavatories, with stoke-hole in the basement for the heating, which will be by hot water throughout. The medallion was designed by Mr. Geo. Tinworth, and was made by Messrs. Doulton & Co. The building was designed by Mr. J. H. Simpson, clerk of works of the West Dean Estate.

ST. ANSELM'S CHURCH, REDLAND, BRISTOL.—This church, erected as a chapel of ease to St. John's, Redland, was opened on Sunday, August 8. The work at present done consists of the nave and chancel, which accommodate about 400 persons. The style is late Early English. The walls are of pink stone, taken from the site, with dressings of Bath stone. Mr. W. V. Gough, of Bristol, is the architect.

ROYAL COURT THEATRE, LIVERPOOL.—The disastrous fire which took place in the beginning of the year at the Court Theatre suddenly stopped the progress of the performances, and on the 21st ult. the restoration was commenced with new roofing and new ceiling. Dressing-room accommodation has now been provided, and instead of general dressing-rooms, as formerly, the theatre possesses thirty-six new dressing-rooms, all built on fireproof flooring. Another improvement is that each dressing-room floor has two fireproof staircases as exits for the artistes. Lavatory accommodation has been provided for these dressing-rooms, and also for the staff and general public. Owing to the limited area of the rooms surrounding the theatre it was a matter of difficulty to increase the size of the old buffet, but by the removal of a staircase the accommodation of this department has been very materially increased. The buffet and the foyer have been refitted and redecorated, principally in white and gold. In addition to the above there have been many alterations under the stage and under the pit. A new carpenters' shop and one for the engineer, with which is incorporated a fireproof brazier's shop, have been excavated out of the rock. Adjoining them is a new band-room. Under the orchestra and under the pit a new room has been made, which can be used for general storage or as an additional green-room. It has, moreover, the great advantage of forming a connexion between both sides of the stage. Further, to add to the comfort of the theatre, a complete hot-water system of heating has been arranged. Fire hydrants are provided in the pit, dress circle, and gallery, to be used as an additional protection for the public. For the lighting of the theatre gas has been superseded by electric lighting wherever possible. The work was commenced on June 21 last, and the theatre was ready for opening on Monday, August 2. Notwithstanding the extraordinary difficulties which have stood in the way of anything like rapid progress—for instance, the large mass of rock to be removed and the course of the new excavations, the impossibility of getting plasterers owing to the prolonged strike and consequent substitution of less pliable materials than plaster—the whole of the works have been completed strictly within the short time stipulated in the contract, viz., six weeks. A shelter verandah has been designed to protect the public waiting for entrance to the theatre in Roe-street. The works have been executed by Messrs. W Morrison & Sons, builders, of Wavertree, from the designs of Mr. Edmond Kirby, architect, Liverpool.

SANITARY AND ENGINEERING NEWS.

DRAINAGE WORKS, EAST RETFORD.—At a meeting of the Retford Town Council on July 30 an extensive scheme of drainage was discussed, a report on the same having been drawn up by Mr. J. C. Melliss, C.E. It appears that not many of the existing sewers in the borough are sufficiently good to be utilised in the proposed new works, except in certain cases as surface water drains. The engineer reported that the present sewage of the borough could, with perhaps the exception of the village of Ordsall, be collected by gravitation to the northern and lower end of Bolham-lane, avoiding the expense of intermediate lifts. He had not included the re-sewering of the village of Ordsall, as he thought it might for a while longer be deferred until it became absolutely necessary. When it is undertaken the question can be decided whether it will be best to lift the sewage or to convey it to the general system by a flat gradient sewer well provided by flushing arrangements. The general scheme prepared for collecting the sewage of the borough comprised 18,280 yds. of new stoneware pipe sewers, varying in diameter from 8 in. to 24 in., protected with concrete where necessary; cast-iron pipes for rising main, river, canal, and railway crossings and other places where needed; manholes, lamp-holes at each change of size, direction and gradient in the sewers, junctions, arrangements for flushing and ventilation, storm overflows, &c. Branch drains between the sewers and the houses are not included. The new sewers proposed have good self-cleansing gradients. They are of sufficient capacity for the sewage of 30,000 persons, or a population of about three times the present; but it will be necessary to prevent all subsoil water and as much surface water as possible from entering them. The sewage will be conveyed by gravitation to the lower end of Bolham-lane, where a coarse strainer will be provided for removing large matter. A lifting station will also be provided at that point, containing three 500 gallon ejectors, two of which will be capable of lifting the sewage through a 15-in. cast-iron rising main to the disposal works placed on the high land, one ejector being kept in reserve. This station and machinery being capable of easy enlargement, is at present calculated for serving a population of about 15,000 persons. The ejectors will be worked by air compressed at the disposal works, and conveyed by a 5-in. cast-iron air main, and as they are automatic in their action, little or no labour will be required to attend to them. The total lift from the invert of the outfall sewer at Bolham to the tank at the disposal works on the high land will be 47 ft. 6 in. The sewage disposal and purification works, with the exception of the land, are calculated to deal with a population of 15,000. In regard to the method of treating the sewage, on arrival at the works it would first of all be strained. It would then be deodorised and precipitated in tanks by means of crude alum, salts of iron, carbon, and lime, in the proper proportions. The sludge would be pressed into a portable and inoffensive condition, and the effluent water filtered through the land. In a further report the engineer states that on further consideration he finds that it would be preferable to lift the sewage of Ordsall village

into the general system than to convey it by a flat gradient sewer, and he proposes to collect this sewage in Goosemoor-lane at a point on the east side of the river bridge, and there to lift it by means of small hydraulic pumps, placed below ground, and worked off the water main in that locality, the sewage being conveyed into the general system at Thrumpton. As regards the admission of surface water into the sewers, it is intended that it should be excluded from all the new sewers as far as practicable; that is to say, rainfall on roads, streets, and front roofs of all existing buildings, and gardens must not enter the sewers, but provision is made for taking rainfall from the roofs of existing buildings. In case of new building estates and new buildings, back roof water is also intended to be excluded from the sewers. The estimated cost of the works is about 40,000*l.* As a result of the meeting the report of the Sewage Committee (including the engineer's report) was adopted, and Mr. Melliss has been instructed to prepare plans and specifications for the consideration of the Local Government Board.

BUXTON AND ASHBOURNE RAILWAY.—The first portion of the Buxton and Ashbourne new railway—that from Buxton to Parsley Hay, 9½ miles in length—has been completed. The work on the remaining portion from Parsley Hay to Ashbourne is being pushed forward by Naylor Brothers, the contractors, and when it is completed an important agricultural district of considerable beauty will be opened up. This will entail the construction of a line 13½ miles in extent, so that the distance from Buxton to Ashbourne will be practically the same distance as that from Buxton to Manchester—namely 23½ miles, or thereabouts. This should be accomplished in an hour, as compared with the three hours' journey *vid* Middlewood, Macclesfield, and Rocester on the North Staffordshire system. The station of the new line at Ashbourne will be in the Paddock, close to the North Staffordshire Railway station, and the stations after passing Ashbourne for Buxton will be Thorpe Cloud, Fenny Bentley, Tissington, Alsop-en-le-Dale, and Hartington, joining with Parsley Hay, the already completed portion to Buxton. There is a tunnel at Ashbourne 390 yards in length, passing under the hill, and this will be completed in four months' time. There is a viaduct 230 ft. in length, of seven arches, over Bentley Brook, and various occupation bridges are being erected. The abutments are up for a girder bridge adjoining the site for the proposed Thorpe Cloud station for Dovedale. The cuttings are many, and are well in hand. Immense masses of limestone were encountered half a mile from Crakelow Farm and Newton Grange. A station near to New Inns Farm will serve Alstonefield, Parwich, and the Milldale end of Dovedale. The largest cutting is a mile in length, and a large quantity of earth, stone, and rock has been excavated; it is about 60 ft. deep in the deepest part. The railway will be on high ground relatively to the surrounding country, and the scenery is extremely varied and beautiful. It is hoped that the line may be completed in about two years' time. The resident engineer at Ashbourne for the London and North-Western Company is Mr. Hurst, and the contractors' engineers are Messrs. Parkin, Barnby, & Beattie.—*Manchester Evening News.*

WATER SUPPLY, EASTBOURNE.—On August 6 the Duke of Devonshire inaugurated the new supply of water from Friston. Eastbourne now derives its water from three sources—(1) from Holywell, obtained last summer; (2) from Wannock, opened a few months ago; and (3) from Friston. The undertaking belongs to the Eastbourne Waterworks Company, and the present works have been carried out in fulfilment of a pledge to a House of Lords' Committee about two months ago to construct a main extending over a distance of nearly four miles across the Downs through East Dean parish and the Black Robin Farm, from Friston to the high service reservoir at Meads. The work of constructing this new main, which is temporary only in places where tunnelling will be necessary, has been performed by Messrs. J. Aird & Sons, who commenced operations on May 25. In the meantime the works at Friston have been perfected, and a set of engines capable of pumping 2,500,000 gallons per day, and of raising the water to a height of 500 ft. above the level of the downs crossed by the main, have now been laid down. The supply now obtainable by the company from the three sources above named is more than equal to the needs of the municipality, but, having regard to the rapid developments which have been and are still taking place in Eastbourne, the Waterworks Company have anticipated a further augmentation from Charleston, where works are already proceeding.

FOREIGN.

FRANCE.—A fine portrait by Romney has just been purchased by the National Museums Committee and presented to the Louvre.——M. Yvon, architect, has just completed the construction of a new "Ecole Coloniale" at Paris, the façades of which reproduce the architecture of the French colonies in the extreme East.——Four French architects, MM. Deprasse, Albert Ballu, Cordonnier, and Brunau, have obtained medals of the first class at the Brussells Exhibition.——It appears that the Palais des Arts Libéraux on the Champ de Mars is to be transported, piece by piece, to Russia, where it is to form a terminal railway station.——A new railway line is to be made shortly between Milly and Barbizon, the well-known favourite resort of landscape painters.——Last Sunday the garden and park of Chantilly were opened to the public for the first time since the death of Duc d'Aumale. The castle and its collections will not be open till May, 1898.——M. Pigeon, the recently-appointed curator of the Museum at Lille, which has long been in a most defective condition, has resigned, declining the responsibility of looking after a collection so badly housed and arranged.——The monument to Molière at Pézenas was inaugurated on Sunday last.——The Museum at Dieppe has been rebuilt. The new buildings include an architecture gallery, five galleries of archæological exhibits, five others containing various works of modern art, and the collection given to the town by M. Saint-Saëns.——The President of the Republic has just inaugurated the new Palais de Justice at Grenoble, installed in the old Parliament house of Dauphiné; also a fine monument by M. Henri Ding to commemorate the reunion of the States of Dauphiné at the time of the French Revolution. The monument consists of a group in marble representing the members of the Tiers Etat, the clergy, and the nobility taking the oath of union in defence of liberty.——A biological laboratory is in course of construction at Tamaris, near Toulon.——The municipal authorities at Poitiers are preparing to spend about 500,000 francs in the rebuilding of the public library and the law schools in that town.——A school of military sanitation is in process of construction at Lyons, at an estimated cost of more than three million francs; the buildings will cover an area of 6,600 square mètres.——A distinguished architect and member of the Société Centrale, M. Chas Errard, has just died, at the age of 71. He was a native of Caen, where he carried out numerous architectural works. Latterly he had been inspector of works at the new cathedral of Marseilles.——The death is also announced of a painter, M. Léopold de Moulignon, a former pupil of Delaroche and of Picot. He had lived long in Italy and in Algeria, and exhibited in the Salons from 1847 to 1868 works (portraits and *genre* subjects) which attracted some attention.

GERMANY.—Fifty German architects have arranged to visit the Brussels Congress, under the auspices of the Rhenish Architectural Society.——A competition has been opened at Hamburg for the design of a new church at Hammerbrook, and premiums of a value of 250*l.* are to be given. The cost of the building is not to exceed 17,000*l.* and there will be an influential Committee of Assessors. It is notable that all drawings are to be to a small scale, and that they are only to sketchily indicate the design.——An interesting Annual Report has just been issued by the Municipality of Munich, dealing with the whole of the work undertaken by the Building Department, and it appears that great progress is being made in all the sections of this administration. It may be noted that Munich has its own municipal electrical works. One of the most recent buildings of general interest taken in hand by the municipality is the New Exhibition Hall, the estimates for which amount to 20,000*l.*

MISCELLANEOUS.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS.—Mr. G. E. Todd, builder, of 192, Hackney-road, and 1, Hassard-street, E., has taken in partnership Mr. G. I. Newman, who has been several years in the business with him, and the firm will henceforth be styled "G. E. Todd & Co."

MADRID EXHIBITION OF SPANISH INDUSTRIES, 1897.—The Department of Science and Art has received, through the Foreign Office, a copy of a Despatch, enclosing a translation of a Royal Decree for the holding of an Exhibition of Spanish Industries in the Palace of Arts and Industry, Madrid, this year. The exhibition will be opened on October 20.

OPEN SPACES IN SOUTH LONDON.—It is stated that Lord Llangattock has offered to the Vestry of St. George-the-Martyr the semicircular piece of land called the Paragon, New Kent-road, three-quarters of an acre in extent, for 3,400*l.*, and that he will contribute 1,000*l.*, and the London County Council 1,700*l.*, towards the purchase-money. At a recent meeting of the Wandsworth District Board, it was announced that Dr. Longstaff, L.C.C., had offered to give 5,000*l.* towards the amount that is needed to carry out the purchase of a piece of land, about twenty acres in area, by the riverside below Putney Bridge. At their meeting on July 27 last, the London County Council agreed to buy the land for 31,500*l.*, subject to the District Board undertaking to pay the Council a sum of 10,000*l.*, and to the raising of a further sum of 5,800*l.* by subscription. Deptford Park, consisting of seventeen acres, latterly leased as market gardens, and bought from Mr. W. J. Evelyn, lord of the manor, in 1893, has just been opened. The price was fixed at 2,100*l.* per acre. To the total cost, 36,031*l.*, the following contributions were made:—The Greenwich District Board of Works, 8,250*l.*; Mr. W. J. Evelyn, 2,000*l.*; the trustees of the London Parochial Charities, 800*l.*; private subscribers, 950*l.*; and the London County Council, 24,031*l.* The grounds have been laid out by Colonel Sexby, chief officer of the Parks Department, L.C.C., and 7,500*l.* were spent in adapting them to their new purpose. In July, 1886, Mr. Evelyn presented, for public use and enjoyment, 1½ acre at Sayes Court, Deptford, as laid out by the Kyrle Society, which had formed part of the gardens cultivated by his ancestor, John Evelyn. Sayes Court house was pulled down in 1728; see also our account of the site, *Builder*, September 20, 1884, and the Wotton MSS.

THE CARPENTERS' COMPANY AND KING'S COLLEGE.—The winners of the medals, &c., presented by the Carpenters' Company to students in the classes conducted under the auspices of the Company and the Council of the College are as follows:—Building Construction, day classes under Professor Fletcher: gold medal and 3*l.*: H. C. Bishop; silver medals and 2*l.*: E. F. Knight, A. J. West, and C. W. Myddleton; bronze medals and 1*l.*: G. A. Turner, W. Shelley, and A. E. Ruffhead. Evening classes:—gold medal: J. G. Wiles; silver medals and 3*l.*: F. G. Pain, S. A. Switzer, and P. C. Blow (medal only); bronze medals and 2*l.*: C. W. Beaumont, C. J. T. Dadd, H. C. Bishop, H. Gloyne, W. Marchment. Lord Mayor medal for Sanitary Building Construction: A. Carter. J. Kent, S. A. Switzer, T. Graves, J. Gough, W. Drake, and C. J. T. Dadd have also won money prizes (all prizes of money are given in books to the value of the prize won). Wood-carving classes (amateur):—silver medals: Miss Carpenter, T. Ainsworth, and John Dunn; bronze medals: L. A. Waldron and A. J. South. These medals are accompanied by scholarships tenable at the classes at King's College. These prizes will be presented by Sir Henry Harben at a soirée at King's College on September 30.

A FIRE-EXTINGUISHING HAND GRENADE.—It is always desirable to be prepared for an emergency such as an outbreak of fire, and our contemporary, the *Scientific American*, describes a form of hand grenade that can easily be made at very little cost. If 20 lb. of common salt and 10 lb. of sal-ammoniac are dissolved in 7 gals. of water, and the mixture afterwards put into quart bottles of thin glass, the grenades so made will be found very efficient for extinguishing small outbreaks of fire. The bottles should be tightly corked and sealed so as to prevent evaporation, and when a fire occurs they must be thrown in or near the flames so as to break, and thus liberate the gas contained, to effect the desired object.

SUBSIDENCE AT NORTHWICH.—A serious subsidence occurred in the sanctuary of Dane Bridge parish church, Northwich, the other day. The floor was supported by brick arches. One of these gave way, owing to the sinking of the foundations, caused, it is said, by brine pumping, leaving a hole some 6 ft. long and nearly 4 ft. wide. The porch walls show large fissures, and the whole fabric has suffered considerably.

LEGAL.

THICKNESS OF EXTERNAL WALLS:

CASE UNDER THE LONDON BUILDING ACT.

AT the Lambeth Police-court, on the 6th inst., the Magistrate heard an appeal by Mr. John Tyerman, a Walworth builder, against a notice of objection served upon him by Mr. Ellis Marsland, District Surveyor, in connexion with the rebuilding of the "General Havelock," Parkstone-street, Peckham. Mr. Pasmore appeared in support of the appeal. The matter was brought before the Court under the provisions of Section 150 of the London Building Act, which gives a builder power to appeal to a petty sessional court should he be dissatisfied with the decision of the surveyor. Mr. Pasmore stated that the notice of objection served upon the appellant by the District Surveyor had reference to the thickness of the external walls of the basement of the building. The first schedule to the Act (Part 1, Section 3) dealt with the thicknesses to be observed in the building of a wall exceeding 40 ft., but not exceeding 50 ft. in height, the thickness varying according to the length of the wall. In this case the wall was 43 ft. high. Section 7 of the first schedule (preliminary) to the Act, provided "For the purpose of determining the thickness of a wall the height of such wall shall be measured from the base of the wall to the top of the topmost story, whether such wall is carried to the full height or not, or in case of a gable, when there are no stories in the roof to half the height of the gable." The definition clause of the Act provided that "The expression 'base' applied to a wall means the underside of the course immediately above the footings, if any, or in the case of a wall carried by a bressummer above such bressummer. The definition of the word 'bressummer' was a wooden beam and a metallic girder, which carries a wall." In this case the District Surveyor claimed that the wall over which the dispute had arisen should be 17½ in. thick for the basement story, it being in his view a wall 43 ft. in height. Section 56 of the Act, which dealt with bressummers, showed that an entirely different state of things had to be considered where bressummers were employed. His (Mr. Pasmore's) point was that the wall began with the bressummer, and not with the basement. He might say that Mr. William Brutton, the architect, was building houses in every district in London, and Mr. Marsland was absolutely the only District Sur-

veyor who had called upon Mr. Brutton to build his basement wall according to the height of the building if there was a bressummer. He submitted that Mr. Marsland had misconceived the intention of the Act.—Mr. W. M. Brutton, the architect, was called and examined as to the details of the work. There would be, he said, an open shop front with a bressummer above carrying the superstructure.—Mr. Marsland: The external wall of the basement, I see on your drawing, is 14 in.—The Witness: What I call the retaining wall between the piers. Yes, that is so. Mr. Marsland: I am asking that it should be 17½ in. thick?—The Witness: That is so.—Mr. Hopkins: I am not sure I understand this. What I am wondering is, why a wall is less a wall within the statute because half way up it may be there is a bressummer.—Mr. Pasmore: Because the height of the wall has to be measured from the base. The base of a wall carried on a bressummer must be from the bressummer.—Mr. Hopkins: Yes, when you are dealing with the thickness of the wall above the bressummer, I agree it may be so, but I am not dealing with that. I am dealing with the wall below the bressummer.—Mr. Pasmore: There can't be two bases to the same wall. The wall beginning in the basement does not go higher than the surface of the ground.—Mr. Hopkins: Why is it less a wall throughout the whole height because it has a bressummer?—Mr. Pasmore: Where the shop front is there is no wall at all. I will ask you to look at the definition of the word "base."—Mr. Hopkins: I quite follow that, but my difficulty is that I am not dealing with anything above the bressummer. I am dealing with the wall below the bressummer and which carries the bressummer.—Mr. Pasmore: The wall below the bressummer extends to the ground level only, and is not a wall 43 ft. high.—Mr. Hopkins: If you were dealing with an ordinary shop with brickwork all the way up, the question would not arise. You say that because you have an archway upon a bressummer your statutory position below the bressummer is altered.—Mr. Pasmore: That is so, sir, because under Section 56 we have to support the bressummer, in accordance with the provisions of the Act of Parliament.

Mr. Hopkins came to the conclusion that the District Surveyor was right, and dismissed the appeal.—*Morning Advertiser.*

BUILDING FRONTAGE:

CASE UNDER THE PUBLIC HEALTH ACT.

AT the Highgate Petty Sessions Court on Monday, August 2, Chas. Marriott, of Nether-street, North Finchley, was summoned by the Finchley District Council for bringing forward a house frontage beyond that of the adjoining houses. Mr. Forbes appeared for the District Council, and Mr. Moreton Smith was counsel for the defendant. This was a summons under the Public Health Act, which Act laid down the penalty of 40s. a day after notice had been given by the Urban District Authority. The Council alleged that defendant was erecting a house at the corner of Woodside Park-road and Woodside-avenue, and on one side it had been brought forward 2 ft. 2 in. beyond the main frontage of "Fairlight," Woodside-avenue. The plans were passed by the Council subject to the building not being brought forward beyond the front main line of the adjoining buildings, and the surveyor pointed out by letter where to keep the frontage to, but they came forward the distance stated. For the defence it was stated the "adjoining" houses were a long way off, and many cases were cited in support of defendant's contention that he should not be interfered with in his building operations. After a lengthy hearing the Bench retired, and upon their return the Chairman said they had very carefully considered the case, and their decision was that the summons should be dismissed with five guineas costs.—*North Middlesex Chronicle.*

ALLEGED INTERFERENCE WITH ANCIENT LIGHTS IN HANWAY-PLACE.

THE case of Morgan *v.* Viscount Gort came before Mr. Justice Romer in the Chancery Division on the 6th inst., it being an action relating to the alleged infringement of ancient lights and access of air to the plaintiff's premises.

Mr. Levett, Q.C., who appeared for the plaintiff, said that the parties had agreed to terms, the defendant undertaking until judgment or further order, not to erect in the rear of the plaintiff's premises in Hanway-place any building or woodwork so as to obstruct the ancient lights or the access of air as was hereinbefore enjoyed by the plaintiff. There would be no costs on the motion, except that costs be costs in the action.

Order accordingly.

Mr. Ralph Neville, Q.C., appeared for the defendant.

MEETINGS.

SATURDAY, AUGUST 14.

Institution of Junior Engineers.—Summer meeting, at Dublin. August 14 to 17.

WEDNESDAY, AUGUST 18.

Builders' Foremen and Clerks of Works' Provident Institution.—Ordinary meeting. 8 p.m.

SATURDAY, AUGUST 21.

Northern Architectural Association. — Students' Sketching Club Excursion.

RECENT PATENTS:

ABSTRACTS OF SPECIFICATIONS.

17,639.—FLUSHING APPARATUS FOR WATER CLOSETS: *J. T. Gibson, jun.*—Consists in a flushing apparatus comprising a container with service inlet, a tipping tank mounted on trunnions therein, a lever arm, and a flexible connexion. The moving parts are provided with sound-deadening stops.

19,177.—SYPHONAL CISTERNS FOR W.C's, &c.—*J. Shanks.*—Inventor claims an improved siphonal cistern, comprising a bell or hood capable of being lifted by a lever, to which the closet handle is connected, the said bell covering a syphon made with three legs, one of which is connected to the downlet pipe, while the second forms a trap bend with the third having a free or open end. Some modifications are also described.

19,563.—FANLIGHT OPENERS.—*C. F. Gray and Another.*—Inventors claim in fanlight openers the construction of bevelled cog wheels, a pulley and screwed spindle for the purpose of actuating a screwed boss, connected with a pivoted fanlight.

19,922.—DRAIN PIPES, SEWERS, &C.: *A. B. Plummer.*—For the purpose of providing better carrying capacity and more efficient flushing, inventor constructs drain-pipes, sewers, &c., in the form of two superposed part circles of two branches of different radii, the upper one being the greater, and the two gradually merging together.

8,261.—FIREPROOF FLOORS: *J. Howden.*—Inventor claims a fireproof floor, comprising metal beams, between which concrete is applied, having within it hollow spaces, obtained by the insertion of shells of thin wood, and having wood, tile, cement, or other flooring fixed on its upper sides, and plaster, on its lower surface.

10,258.—BUILDING BRICKS: *J. Sisk.*—Relates to bricks provided with suitably shaped grooves for providing "key" to mortar or plaster.

11,071.—PRISM LIGHTS: *F. C. Soper.*—Inventor claims a prism light having a plain surface on one side, and a series of prisms extending across the body of the glass on the other, with various modifications of the principle.

11,076.—WINDOWS: *W. S. MacHaig.*—Consists in novel methods of arranging prismatic or other glass in frames, and hanging same with sliding blocks, &c.

NEW APPLICATIONS FOR LETTERS PATENT.

JULY 26.—17,515, E. Craven, Safety Stair Ball Nosing.—17,540, H. Lea, Electric Light Fittings.

JULY 27.—17,553, G. Marsden and J. Newton, Dies Used in the Manufacture of Slabs or Tiles.—17,567, G. Nelles, Saws.—17,590, A. Johnson, Joint for Stone and Earthenware Pipes.—17,612, R. McHardy and Others, Door Knob Furniture.—17,616, G. Smith, Sash Fastener, also applicable for Opening Windows.—17,617, G. Cooper, Window Sash Fastener.

JULY 28.—17,689, T. Leigh, Casement Stays for Window or Fanlight Fasteners, &c.—17,698, A. Ward and J. Sykes, Water Closet.—17,703, H. Harvey, Coin Freed Locks or Bolts for Doors.—17,713, H. Braun and R. Gross, Door Closing Apparatus.—17,724, E. Masters, Spring Hinge.—17,730, J. Fiske, Lock Hinge.

July 29.—17,774, J. Noad, Manufacture of White Lead.—17,775, J. Noad, Manufacture of White Lead.—17,784, C. Still, Locks and Door Knobs.—17,821, W. Benson, Casements and Window Frames.—17,829.—F. Grant, Windows for Dwelling Houses and Public Buildings.

July 30.—17,879, T. Leigh, Casement Stays for Window Fanlights, &c.—17,922, J. Stuttle, Sash Fastening Devices.

July 31.—18,004, J. Mennessier, Machines for Sharpening and Setting Circular Saws.—18,010, S. Hill and C. Hodges, Door Closing Appliances.

PROVISIONAL SPECIFICATIONS ACCEPTED.

8,817, G. Baldrey, Lever Bolt.—11,492, C. Hoskyns, Self-acting Ventilator and Chimney Cap.—12,307, D. Evans and J. Jones, Window Sash Fasteners.—15,552, A. and C. Milinaire, Bent Metal Sheets for Roofs, Floors, Partitions, &c.—12,787, E. Hughes, Lead Junction Making without Solder.—12,835, C. Heideike, Tools for Operating upon Stone, Metal, Wood, &c.—13,040, H. and C. Gammon, Automatic Syphon Flushing Cistern for Water Closets.—13,220, A. Boote, Automatic Transferring and Washing-off Machine for Tiles.—13,695, E. Larking, Sash Fastener.—13,731, G. Howel, Pump Water Closets.—14,048, H. Friend, Pulley Stile Sash Retainer.—14,748, T. Jones, Sash Fasteners.—14,970, J. Daniella, Imitation of Coloured Marbles.—14,975, R. Graham, Window Sash Fastener.—15,028, A. Wincott, Drain Pipes.—15,134, W. Johnson, Fire Grates.—15,262, R. Hope, Window Wedge.—15,284, W. Freer, Doors.—15,434, C. Plant, Flushing Cistern.—15,638, E. Fogg, Sash Fasteners.—15,647, G. Pollard, Sash Fasteners.—15,675, J. Hill, Window Sash Fasteners.—15,676, A. Todd, Sash Fasteners.—15,679, W. Fletcher, Sash Fasteners.—15,680, D. Hughes, Sash Fasteners.—15,686, W. Chitty, Window Sash Fasteners.—15,691, G. Thomas, Sash Fasteners.—15,692, M. Hughes, Sash Fasteners.—15,694, J. Aust.—Sash Fasteners, 15,701, W. Llewellyn, Sash Fasteners.—15,734, H. Griffiths, Window Sash Fasteners.—15,765, H. Warner, Window Fasteners.—16,027, A. Grayson, Double Dovetail Fixing Brick.—16,235, W. Thompson, Window Sashes.—16,262, J. Lucas, Sliding and Folding Doors.—16,345, W. Davis and E. Field, Window Sashes and Window Frames.—16,368, A. Gillingham, Ventilating Cowl.—16,461, H. Edmond, Window Frame and Sash.—16,646, R. Bamber, Disinfecting Drains or other places provided with a flushing apparatus.—16,647, J. Wilkes, Dies for Brick Presses.—16,674, M. Gentry and H. Gunwall, Brick Pressing Machinery.—16,964, W. Thompson, Glass Tile.—16,966, A. Loewi, Flooring.—16,742, F. Lynde, Baths, Lavatory Basins, Sinks, &c.—16,939, C. Green, Blocks for Building Arches, Flooring, &c.—16,959, V. Fischbein, Screws and Screw-drivers.—17,007, J. Craven, Brickmaking Machines.—17,051, F. Hamill, Oil Paints.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to opposition for two months.

16,862, W. Katthoner, Roofing Tiles.—20,268, J. Watson, Preventing the bursting of Water Pipes in frosty weather.—21,319, A. Wakefield, Gully Traps.—4,797, D. Annan, Windows and their Frames.—9,921, A. Boult, Apparatus for Cutting and Sawing Stone.—15,296, J. Dupee and others, Blow Lamps for plumbers, &c.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

July 22.—By T. W. GAZE (at Diss).

Diss, Norfolk.—Residence and stabling, f. and c., r. 30*l.*	£470
A copyhold house and shop, r. 25*l.*	455
A freehold cottage and 2 r. 34 p.	133
Fersfield, &c., Norfolk.—A freehold farm, area 10 a. 2 r. 25 p.	115

July 23.—By BACON & SONS (at East Dereham).

Little Fransham, Norfolk.—A freehold farm, area 36 a. 2 r. 31 p.	750

July 26.—By D. SMITH, SON, & OAKLEY (at Bath).

Bath (near), Gloucester.—"Battlefields"; also part of "Lilliput Farm," 139 a. 1 r. 25 p., f.	6,500
Part of "Lilliput Farm," 25 a. 0 r. 3 p., f.	855

By DANN & LUCAS.

Wilmington, Kent.—"Heathside Nursery" and 4½ acres, f.	1,800
Fifteen freehold cottages, r. 195*l.*	2,250

By ELLIOTT, SON, & BOYTON.

Kensington.—15, 16, and 16A, Merton-rd., u.t. 35 yrs., g.r. nil, r. 108*l.*	670

By HARMAN BROS.

Bexley, Kent.—Hurst-rd., "The Cottage," u.t. 80 yrs., g.r. 23*l.*, r. 105*l.*	1,100
Stoke Newington.—160, Lordship-rd., u.t. 77½ yrs., g.r. 10*l.*, e.r. 75*l.*	800
46, Cazenove-rd., u.t. 77½ yrs., g.r. 11*l.*, e.r. 70*l.*	780
74, Bayston-rd., u.t. 77 yrs., g.r. 6*l.*, r. 36*l.*	400

By E. W. HARRIS.

Beckenham.—30, Ravenscroft-rd., f., r. 36*l* 8s.	330

By KING & CHASEMORE.

Thakeham, Sussex.—"Nash Farm" (part of), 27 acres, f.	360

By A. ROBERTSON.

Finsbury.—56, Curtain-rd., u.t. 64 yrs., g.r. 140*l.*, r. 425*l.* (including mortgage)	5,200

By S. CLIFFORD TEE.

Mile End.—18, 20 & 22, Huddart-st., u.t. 77 yrs., g.r. 15*l.*	885
98a, Bridge-st., u.t. 62 yrs., g.r. 6*l.*, r. 35*l.*	500

By ROGERS, CHAPMAN, & THOMAS.

Kilburn.—48, Cavendish-rd., u.t. 72 yrs., g.r. 10*l.*	550

By F. ELLEN & SON.

Chute, Wilts.—"Lower House Farm," 55 a. 0 r. 1 p., f.	440
"The Chute Manor Farm," 848 a. 1 r. 33 p. f.	4,200
Penton Mewsey, Hants.—"Penton Manor Farm," 892 a. 3r. 16 p., f. & c.	5,900
Andover, &c., Hants.—Six cottage tenements and enclosure, 0 a. 2 r. 28 p., f.	404
Enclosures of land, 92 a. 0 r. 22 p., f.	591
Chute, &c., Wilts.—Enclosures of land, 18 a. 3 r. 7 p., f.	170

July 27.—By T. W. GAZE (at Forncett).

Forncett, Norfolk.—A freehold farm, area 8 a. 1 r. 30 p.	200
Two small occupations, 10 a. 3 r. 17 p., f.	335
Eleven cottages and 3 a. 3 r. 12 p., f.	448
Tibenham, Norfolk.—Two double cottages and 0 a. 1 r. 19 p., f.	110

By WALTON & LEE & G. WIGLEY (at Winslow).

Winslow, Bucks.—"Scott's Close," 2 a. 2 r. 0 p., f.	270
A freehold building estate, area 21 a. 1 r. 20 p.	2,000
Brick yard and allotment gardens, 17 a. 0 r. 27 p., f.	700
"Red Hall Farm," 177 a. 1 r. 36 p., f.	4,000
Enclosures of land, 23 a. 3 r. 4 p., f.	2,600
"Shipton Farm," 90 a. 0 r. 14 p., f.	4,900
"Grandborough-rd. Farm," 62 a. 0 r. 12 p., f.	2,400
"Rands Farm," 174 a. 3 r. 31 p., f.	4,150
Four enclosures, 17 a. 0 r. 27 p., f.	1,075
"Holcombe Farm," 233 a. 1 r. 32 p., f.	4,500
"Ivy Cottage," and two houses adjoining, 2 a. 1 r. 12 p., f.	770
Two garden plots, 0 a. 2 r. 4 p., f.	105
Twelve cottages and 2 a. 1 r. 35 p., f.	570

By J. AUSTIN & CO.

Thornton Heath.—16, Osborne-rd., f., e.r. 40*l.*	505
Fulham.—612, King's-rd., u.t. 53 yrs., g.r. 5*l.*, r. 70*l.*	830

By BEAN, BURNETT, & ELDRIDGE.

Southend, Essex.—Lydford-rd., f.g.r. 40*l.*, reversion in 89 yrs.	1,120
New Southgate.—Brunswick-cres., f.g.r. 106*l.*, reversion in 95 yrs.	2,710
Hampstead.—33, 35, and 73, Parliament Hill-rd., u.t. 79 yrs., g.r. 26*l.*, r. 245*l.*	2,250

By BELCHER, ADKIN, & BELCHER.

East Hendred, Berks.—The King's Manor, with all rights, &c., f.	440

By Messrs. EILOART.

Fleet-st.—Bouverie-st., f.g.r. 250*l.*, reversion in 65 yrs.	8,300
St. John's Wood.—Blenheim-ter., f.g.r. 81*l.*, reversion in 48 yrs.	2,615

By FIELD & SONS.

Camberwell.—South-st., freehold granaries and hay stores, r. 80*l.*	1,400
276, 278, and 280, Southampton-st., f., r. 93*l.*	940
Peckham.—66 to 78 (even), Hornby-rd., f.	1,430
Marylebone.—North-st., l.g.r. 45*l.*, u.t., 24½ yrs., g.r. nil	580
Euston-rd.—Drummond-st., l.g.r. 37*l.* 16s., u.t. 26½ yrs., g.r. 12*l.*	355

By FURBER, PRICE, & FURBER.

Leyton.—27, 29, and 31, Sedgwick-rd., u.t. 81 yrs., g.r. 13*l.*	445
New Cross.—42, Casella-rd., u.t. 60 yrs., g.r. 5*l.*, r. 35*l.*	400
Wood Green.—1 to 11 (odd), Cranbrook Pk., u.t. 74 yrs., g.r. 30*l.* 12s., r. 135*l.*	1,050
Wood Green.—1, 3, 7 to 23 (odd), Berners-rd., u.t. 73½ yrs., g.r. 64*l.*, r. 243*l.*	1,890
1, Hardy-ter., u.t. 73½ yrs., g.r. 10*l.* 10s., r. 50*l.*	660

By HUNTER & HUNTER.

Shepperton, Middx.—"Millbrook House" and nearly 2½ a., f.	2,300

By NORMAN & SON.

Marylebone.—3, New-st., beneficial lease for 3 yrs., r. 100*l.*	225

By G. PEARCE & SONS.

Stoke Newington.—17 to 25 (odd), Kingsbury-rd., u.t. 55 yrs., g.r. 31*l.* 10s.	1,100
87, Aden-grove South, u.t. 74 yrs., g.r. 5*l.*, r. 30*l.*	305

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered.
*Meat Market and Abattoir	Leeds T.C.	100*l.*; 50*l.*; 25*l.*	Oct. 8
*Town Hall and Law Courts	Cardiff Corp.	500*l.*; 300*l.*; 200*l.*	Dec. 4
*Union Workhouse	Fylde (Lancs) Union	150*l.*; 100*l.*; 50*l.*	No date

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
Brick Chimney	Dundee Harb. Trustees	G. C. Buchanan, Engr. Works Office, Harbour-chambers, Dundee	Aug. 16
Bridge Work, Barcombe	Chailey R.D.C.	H. K. Wallis, Surv. South-street, Chailey	do.
Police Station, Hallside, near Newton, N.B.	.....	R. H. Paterson, Archt. 10A George-street, Edinburgh	do.
Additions to Houses, Linthorpe Middlesborough	.....	A. F. Newsome, Archt. Albert-road	do.
House, Langley Moor, Durham	.....	Mrs. E. Maddison, Shafto Arms Hotel, Langley Moor	Aug. 17
Chemical Laboratory, Borough Technical School	King's Lynn Corp.	E. J. Silcock, Boro' Surv. King's Lynn	do.
Granite Setts	Gorton (Lancs) U.D.C.	E. T. Holland, Town Hall, Gorton	do.
Workshops, &c. St. John's-street, Bridlington	G. W. Fenby	S. Dyer, Archt. Quay-road, Bridlington	do.
Engine House, Market-place	Chelmsford T.C.	Boro' Surv. 14, Museum-terrace, Chelmsford	do.
Additions to Schools, near Bedford	Oakley School Board	M. Sharman, 6, St. Paul's-square, Bedford	do.
Movable Floor over Swimming Baths, Brentwood	Hackney Union	F. R. Coles, Union Offices, Homerton, N.E.	Aug. 18
Timber Quay, Custom House Buildings	South Shields Corp.	J. Watts, Sandeman, & Co. Engr. 2, St. Nicholas-b'dgs. Newcastle-on-Tyne & A. Pickering, C.E. Town Hall	do.
Wood Paving	Oldham Corp.	D. M. Spence, Archt. Front-st. Annfield Plain	do.
Additions to Business Premises Annfield Plain, Durham	W. Welch & Co.	Fraser & Son, Archt. 117, Victoria-street, Belfast	do.
Church, Albertbridge, Belfast	.....	J. G. Glover, Workhouse, Carlow	do.
Twenty-five Labourers' Cottages	Carlow Union	C. G. Baker, Archt. Town Hall-chmbrs, Gt. Yarm'th	Aug. 19
Residence, The Park, Great Yarmouth	H. D. Sayers	Boro' Surv. Town Hall	Aug. 20
Paving, Flagging, &c. Gladstone-street, &c.	Dewsbury Corporation	B. J. Harrison, Engr. Babington-lane, Derby	Aug. 21
Brickwork of Six Destructor Cells	Derby Corporation	C. E. Butcher, Archt. 3, Queen-street, Colchester	Aug. 23
Factory, Colchester	J. Kavanagh	J. E. Swindlehurst, St. Mary's Hall, Coventry	do.
*Broken Granite Chippings, &c.	Coventry Corp.	J. Russell Wilmore, Hon. Sec. Bexley Heath	do.
*Repairs to Church Tower	The Committee	J. Wolstenholme, C.E. Market-buildings	Aug. 24
Sewers, &c.	Blackpool Corp.	City Engineer, Municipal-buildings	do.
Chimney Shaft, Everton	Liverpool Corp.	Medley Hall, Archt. 29, Northgate, Halifax	do.
Brass Foundry, near Albert Reservoir, Halifax	.....	Giles, Gough, & Trollope, Archts. 21, Craven-st. W.C.	do.
Asylum Building, Parc Gwyllt, near Bridgend	.....	W. E. Clason Thomas, C.E. Council Offices	Aug. 25
Cast-iron Water Mains, Valves, &c. Blaenhonddan	Neath R.D.C.	J. E. Parke, C.E. Post Office-chmbrs, Newcastle-on-Tyne	do.
Sewerage Works, Hamsteels Colliery	Lanchester R.D.C.	Newman & Newman, 31, Tooley-street, E.C.	do.
*Union Offices	St. O'ave's Union		Aug. 26

CONTRACTS—*Continued*

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
*Warehouse	Swansea Harbour Trust	A. O. Schenk, Harbour Offices, Swansea	Aug. 23
*Extension of Electric Light Buildings	Kingston-on-Thames Corp.	Boc'durr, Clattern House, Kingston	do.
*Making up Roads	Wood Green U.D.C.	C. J. Gunyon, Town Hall	Aug. 27
*Erection of Groynes, &c.	Brighton Corp.	F. J. U. May, Town Hall	do.
House, Antrim-road, Belfast	.....	J. A. Hanna, Archt. 102, Donegall-st. Belfast	Aug
Draining, Levelling, &c. Gore-street, Heap Bridge	.....	J. A. Settle, C.E. Municipal Bldgs. Heywood	do
*Iron Fencing and Gates	Hendon U.D.C.	S. S. Grimley, C'ncil Offices	Aug. 30
*Kerbing, Channelling, Tar-paving, Drainage, &c	do.	do.	do.
*Broken Ironstone Slag	do.	do.	do.
*Brick, &c. Walling and Fencing	Plumstead Burial Bd.	H. H. Church, William-st. Woolwich, S.E.	Aug. 31
Sea Walls, Slipways, &c. Preston Sands, Paignton, Devon	P. E. Singer	W. J. Wyatt, Engr. Oldway, Paignton	do.
*Painting, Graining, &c.	Essex Standing Joint Committee	Clerk, Shire Hall, Chelmsford	do.
*Alterations to Asylum	Bristol Lunatic Asylm	H. R. Withycombe, Council House, Bristol	do.
*Sorting Office, Salisbury	Commrs. H.M. Works	13, Whitehall-place, S.W.	do.
*Reservoir and Alterations to Waterworks	Tiverton R.D.C.	Dymond & Parsons, Bampfylde House, Exeter	Sept. 8
Reservoir, &c.	Ledbury U.D.C.	E. E. W. Berrington, Engr. Wolverhampton	Sept. 6
*Erection of Asylum	Lancs. Asylums Bd.	J. Beaman, Delph Farm House, Winwick	Sept. 20
Alterations to Business Premises, 134, Burley-road, Leeds	W. W. Sleight	Arch. Neill, Archt. 18, Cookridge-st. Leeds	No date
*Heating Apparatus at Workhouse	Buckingham Union	C. Bell, 3, Salter's Hall-ct. E.C	do.
*Casual Wards, &c.	do.	do	do.
*Detached Residence	.....	E. Ferguson Taylor, 70, Chancery-lane, W.C.	do.
Five Villas, Wilton Park, Upper Batley	Jno. Blackburn	W. Hanstock, Archt. Leeds	do.
Ice Factory, Bradford	Bradford Clear Ice and Cold Storage Co.	F. Holland, Engr. 11, Parkinson Chambs. Hustlergate, Bradford	do.
Stables, Coach-house, &c. Reedley, Burnley	J. Grimshaw	C. Parsons, Archt. 9, Grimshaw-st. Burnley	do.
Stables, Ashton-under-Lyne	.....	J. H. Turner, Margaret-st. Ashton-under-Lyne	do.
Rebuilding Liberal Club, Audenshaw, Lancs	.....	J. H. Burton, Archt. 2, Guide-lane, Hooley Hill	do.
Two Houses, Wellington Park, Belfast	.....	Forman & Aston, Archt. Queen's-buildings, Royal-avenue, Belfast	do.
Mission Building, Queen's-square, Middlesbrough	.....	J. M. Bottomley, Archt. 28, Albert-rd. Middlesbro'	do.
Schools, Brixworth, Northants	.....	Jno. Ingham, Archt. Abington-street, Northampton	do
Wesleyan Chapel, Church Gresley, Burton-on-Trent	.....	Robt. Clarke, Archt. Prudential-bldgs. Nottingham	do.
Alterations to National Schools Measley, Lancs	.....	J. H. Burton, Archt. 2, Guide-lane, Hooley Hill	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.
*City Engineer's Assistant	Oxford Corp.	2*l.* per week	Aug. 16
*Assistant Surveyor	Darwen Corp.	120*l.* per ann. to commence	Aug. 17
*Inspector of Buildings	Devonport T.C.	100*l.* per ann.	Aug. 21
*Engineering Draughtsman	do.	130*l.* per ann.	do.
*Architectural Draughtsman	do.	130*l.* per ann.	do.
*Assistant Surveyor	Whitechapel Bd. of W.	3*l.* per week	Aug. 25
*Headmaster, School of Arts and Crafts	London County Council	400*l.* per ann.	Sept. 15

Those marked with an asterisk (*) are advertised in this Number. *Competitions, p. iv.* *Contracts, pp. iv. vi. & viii.* *Public Appointments, pp. xviii. & xxi.*

17, Watson-st., u.t. 66 yrs., g.r. 4*l.* 10*s.* £192
Homerton.—12 and 14, Marian-st., f., r. 31*l.* 4*s.* .. 295
Dalston.—32, Navarino-rd., u.t. 55½ yrs., g.r. 6*l.* 5*s.*, r. 48*l.* 450
Hackney.—5, Terrace-rd., u.t. 46¾ yrs., g.r. 7*l.*, r. 40*l.* 400

By E. Simpson.

Deptford.—39 and 43, Giffen-st., f., r. 25*l.* 335
34, Charles-st., f., r. 13*l.* 190

By Humbert, Son, & Flint.

Watford, Herts.—Hemel Hempstead-rd., "Dell Field" and 4 a. 0 r. 37 p., f. 5,600
Southwark.—4, Sourhwark-st., f., r. 130*l.*, and 15, Three Crown-sq., f., r. 200*l.* 4,500
Notting Hill.—25, Stanley-cres., f., r. 115*l.* 1,650
Great Totham, Essex.—Five freehold farms, area 1,185 a. 2 r. 38 p. 6,630
"Roundbush Farm," 51 a. 1 r. 38 p., f. 320
Enclosures of land, 75 a. 0 r. 21 p., f. 350

By Debenham, Tewson, & Co.

Victoria Park.—Bishop's-rd., i.g.r. 22*l.*, u.t. 46 yrs., g.r. 5*l.*, with reversion 350
Bishop's-rd., i.g.r. 20*l.*, u.t. 43 yrs., g.r. 5*l.*, with reversion 330
Bishop's-rd., "The Windsor Castle" p.h., &c., i.g.r. 65*l.*, u.t. 43 yrs., g.r. 8*l.* 15*s.*, with reversion 1,200
Old Ford-rd., i.g.r. 17*l.*, u.t. 33 yrs., g.r. 4*l.*, with reversion 350
Old Ford-rd., i.g.r. 31*l.* 5*s.*, u.t. 43 and 46 yrs., with reversions 540
201, 203, and 207, Old Ford-rd., u.t. 43 yrs., g.r. 13*l.* 10*s.* 610
Bandon-rd., i.g.r. 51*l.*, u.t. 50¾ yrs., g.r. 14*l.*, with reversions 840
Waterloo-rd., i.g.r. 10*l.*, u.t. 33 yrs., g.r. 2*l.* 15*s.*, with reversion 190
St. James's-rd., i.g.r. 19*l.* 5*s.*, u.t. 46 and 33 yrs., g.r. 4*l.*, with reversions 360
4 and 5, St. James's-rd., u.t. 52 yrs., g r. 2*l.*, r. 84*l.* 820
96 to 102 (even), Bonner-rd., u.t. 56½ yrs., g.r. 24*l.*, r. 168*l.* 1,490
60 to 68 (even), Bandon-rd., u.t. 59¾ yrs., g.r. 5*l.* 1,400
3 and 5, Sewardstone-rd., u.t. 59¾ yrs., g.r. 3*l.* 540
4, 6, and 8, Sewardstone-rd., u.t. 52 yrs., g.r. 8*l.*, r. 234*l.* 2,750
Old Ford-rd., "The Royal Victor" p.-h. and 14, Royal Victor-pl., u.t. 56 yrs., g.r. 50*l.*, r. 170*l.* 1,600
236 to 284 (even), 288 and 290, Old Ford-rd., u.t. 56 yrs., g r. 161*l.*, r. 1,085*l.* £9,120
286, Old Ford-rd., and 1a and 1 to 13, Royal Victor-pl., u.t. 56 yrs., g.r. 14*l.*, r. 514*l.* 2,300
Bethnal Green.—59 & 61, Hamilton-rd., u.t. 47 yrs., g.r. 5*l.* 300

By Orgill, Marks & Orgill (at Masons' Hall Tavern).

Islington.—Elmore-st, "The Prince Albert" p.-h., u.t. 48 yrs., r. 200*l.*, with goodwill 8,000

By Hepper & Sons (at Leeds).

Leeds.—113, 115, and 117, Burley-rd., f., r. 63*l.* .. 1,270
18, 19, and 20, Claremont-pl., and 98, 100 and 102, Queen's-pl., f., r. 68*l.* 830
69, 70, 70a and 71, Kirkgate, 4 and 6, High Court Lane and Warehouse, &c., adjoining, area 915 yds., f., r. 218*l.* 12*s.* 3,550
16 and 18, East-st., and shop and four cottages adjoining, area 360 yds., f. 850
20, Francis-st., f., r. 30*l.* 560

By Mabbett & Edge (at Manchester).

Saddleworth, &c., Yorks.—"The Ashway Gap Estate," area about 2,300 a., f. 12,000

By A. Savill & Son (at Stratford).

Canning Town.—Freemason's-rd., a freehold building estate, area 7 a. 2 r. 30 p. 6,500

By Sedgwick, Son, & Weall (at Watford).

Bushey, Herts.—London-rd., a freehold house, r. 18*l.* 360
62, 64, 66, and 68, Aldenham-rd., f., r. 44*l.* 4*s.* .. 405

By A. Preston (at Ipswich).

Pettaugh, &c., Suffolk.—"The Grove Farm," 188 a. 1 r. 34 p., f. (including rent charge) 1,998

By Rule-Owen & Son (at Haverfordwest).

Walwyns Castle, Pembroke.—"Rosepool Farm," 275 a. 0 r. 7 p., f. 6,100
Hasguard, Pembroke.—"Little Hasguard Farm," 277 a. 2 r. 15 p., f. 6,800
"Upper Winsle Farm," 178 a. 3 r. 29 p., f. 4,250

July 28.—By Peirce & Thorpe (at Daventry).

Hellidon, Northants.—Enclosures of land, 68 a. 3 r. 6 p., f. 2,755
Two freehold cottages 150
Everdon, Northants.—Two freehold farms, area 144 a. 0 r. 21 p. 4,000

By Messrs. Cobb (at Faversham).

Selling, Kent.—Two cottages and enclosures of woodland, 12 a., f. 550
Orchard and market garden land, 7 a. 3 r. 2 p., f. £675

By Killingworth & Son (at Boston).

Boston (near), Lincs.—"The Boston West Farm," 205 a. 3 r. 37 p., f. 8,300
The Witham Cottage or Reaches Marsh Farm, 246 a. 2 r. 12 p., f. 8,000

By R. C. Mackenzie (at Glasgow).

Paisley, &c., Renfrewshire.—"The Estate of Hartfield and Hallhill," 2,002 a. 32,000

By Straker & Son (at Hereford).

Ewyas Harold, Hereford.—Enclosures of land, 46 a. 0 r. 29 p., f. 2,800
Enclosures of building land, 18 a. 3 r. 22 p., f. .. 950
Enclosures of land, 75 a. 2 r. 14 p., f. 3,225

By Leopold Farmer.

Hampstead.—1, 2, and 3, The Green, and 1a, 1, to 13, West-cottages, area nearly 1 a., f., r. 391*l.* 7*s.* 5,250
1 to 15 (odd), Narcissus-rd., f., 266*l.* 8*s.* 3,390
1, 2, 4, 5, and 6, Cedar-villas, f., r. 208*l.* 3,100
44, Mill-lane, f., r. 34*l.* 605
St. John's Wood.—156, Alexander-rd., u.t. 60¼ yrs., g.r. 14*l.*, r. 65*l.* 575
Stroud Green.—33, Inderwick rd., u.t. 93½ yrs., g.r. 7*l.*, r. 38*l.* 340
City of London.—34, 34a, and 34b, Little Britain, u.t. 90 yrs., g.r. 65*l.*, r. 126*l.* 805
Maida Vale.—No. 131, u.t. 36 yrs., g.r. 21*l.*, e.r. 100*l.* 650

By Hobson, Richards, & Co.

Stamford Hill.—53, 57, 59, and 63, Ravensdale-rd., u.t. 73 yrs., g.r. 58*l.*, r. 180*l.* 1,090
42, East Bank, u.t. 90 yrs., g.r. 7*l.* 10*s.*, e.r. 48*l.* 490
Anerley.—26, Derwent-rd., u.t. 68 yrs., g.r. 10*l.*, r. 40*l.* 300
Hyde Park.—5, Porchester-pl., u.t. 38½ yrs., g.r. 5*l.* 10*s.*, r. 100*l.* 1,200
Norwood.—10, Lancaster-rd., u.t. 56 yrs., g.r. 21*l.*, r. 95*l.* 820

By Rushworth & Stevens.

Norwood.—90 to 108 (even), Gipsy Hill, and a plot of land, u.t. 61 yrs., g.r. 55*l.*, r. 269*l.* 2,270

By R. Tidey & Son.

Stoke Newington.—49, Mildmay Pk., f., e.r. 75*l.* .. 1,250
De Beauvoir Town.—19, Englefield-rd., u.t. 24 yrs., g.r. 5*l.* 5*s.* 310
Barnsbury.—12, Ringcroft-st., u.t. 47 yrs., g.r. 6*l.*, r. 36*l.* 285

Kingsland.—425, Kingsland-rd., u.t. 28 yrs., g.r. 6*l.*, r. 40*l.* £325

By WAGSTAFF & SONS.

Highbury.—7, Highbury Quadrant, u.t. 52 yrs., g.r. 16*l.* 10s., r. 90*l.* 800

10, Elfort-rd., u.t. 79 yrs., g.r. 6*l.*, r. 32*l.* 330

By DOUGLAS YOUNG & Co.

Pimlico.—37, Hanover-st., u.t. 27½ yrs., g.r. 7*l.* 7s., r. 48*l.* 370

Marylebone.—24 and 26, Boston-pl., u.t. 11¾ yrs., g.r. 3*l.* 18s., r. 45*l.* 195

Euston-rd.—Stanhope-st., a leasehold rental of 50*l.* for 24 yrs. 530

Brixton.—52, Barrington-rd., r. 45*l.*, also g.r. 7*l.* 10s., u.t. 25 yrs., g.r. 15*l.* 12s. 250

Fulham.—Adeney-rd., four building plots, f. 405

Willesden.—Dudden Hill-lane, &c., six building plots, f. 360

Pimlico.—62, Ranelagh-rd., u.t. 25½ yrs., g.r. 8*l.*, r. 55*l.* 420

Vauxhall.—57, Bonnington-sq., u.t. 82½ yrs., g.r. 7*l.* 10s. 415

By THURGOOD & MARTIN.

Buxted, Sussex.—"Claygate Farm," 82 a. 3 r. 24 p., f. 1,550

Two cottages and 0 a. 2 r. 35 p., f. 225

An enclosure of land, 1 a. 3 r. 35 p., f. 160

Cuckfield, Sussex.—"Penland Farm," 40 a. 3 r. 16 p., f. 1,800

Whitechapel.—Wentworth-st., f.g.r. 30*l.*, reversion in 41 yrs. 1,200

Wentworth-st., f.g.r. 75*l.*, reversion in 1 yr. 3,000

Wentworth-st., f.g.r. 55*l.*, reversion in 8 yrs..... 1,440

Old Castle-st., f.g.r. 30*l.*, reversion in 41¼ yrs. .. 1,600

Goulston-st., f.g.r. 350*l.*, reversion in 94 yrs..... 10,400

Old Castle-st., f.g.r. 70*l.*, reversion in 47 yrs..... 2,500

Old Castle-st., &c., f.g.r. 4*l.* reversion in 708 yrs. 500

By RULE-OWEN & SON (at Tenby).

St. Florence, Pembroke.—"Park Wall Farm," 151 a. 0 r. 34 p., f. 2,950

By R. DONKIN & SON (at Newcastle).

Lanchester (near), Durham.—"The Broadwood Park Estate," area 309 a., f. & c. 11,000

By PETER FREEMAN (at Ormskirk).

Aughton, Cheshire.—Prescot-rd., f.g.r., 25*l.* reversion in 980 yrs. 653

By T. PARRY (at Newport).

Pontymister, Mon.—The Pontymister Steel and Tinplate Works and 35¼ a., u.t. 56 yrs., r. 836*l.* 6s. 32,000

By R. C. PEAACE (at Barnard Castle).

Bowes, Yorks.—"Kilmond Wood Farm," 133 a. 1 r. 37 p., f. 3,150

Various enclosures, 42 a. 2 r. 6 p., f. 995

A freehold farm, area 16 a. 3 r. 4 p. 500

115, Stints-on-Bowes Moor 310

July 29.—By H. J. CHEFFINS (at Bishops Stortford).

Albury, Herts.—"Upwick Farm," 437 a. 1 r. 1 p., f. 3,100

By PAXTON & HOLIDAY (at Banbury).

King's Sutton, Northants.—"Little Purston Farm," 150 a. 1 r. 16 p., f. 3,150

Thorpe Mandeville, Northants.—"Thorpe Fields Farm," 104 a. 2 r. 37 p., f. 3,100

Wardington, Oxon.—"Archer's Ground," 23 a. 0 r. 21 p., f. 700

By W. A. BLAKEMORE.

Isleworth, North-st.—"Rhombus House," u.t. 97 yrs., g.r. 5*l.* 145

Teddington, High-rd.—"St. Clair" and "Elmleigh," f., r. 130*l.* 1,960

Harrow, Middlesex.—6, Roxborough Pk.-rd., f., r. 105*l.* 1,725

Roxborough Pk.-rd., f.g.r. 18*l.*, reversion in 65 yrs. 500

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard, &c.

PRICES CURRENT OF MATERIALS.

TIMBER.		
Greenheart, B.G.	ton	£8/0/0 to £9/0/0
Teak, E.I.	load	10/10/0 15/10/0
Sequoia, U.S. ft.cu.		1/8 1/10
Ash, Canada	load	3/5/0 4/10/0
Birch, do.		4/5/0 6/0/0
Elm, do.		4/0/0 5/5/0
Fir, Dantzic, &c..		2/5/0 4/5/0
Oak, do.		3/10/0 5/10/0
Canada		5/10/0 6/10/0
Pine, Canada red		0/0/0 0/0/0
Do. Yellow		2/0/0 4/0/0
Lath, Dantsic, fath		4/10/0 5/10/0
St. Petersburg..		5/0/0 6/10/0
Wainscot, Riga, &c., log		1/10/0 3 15/0
Odessa, crown		1/10/0 3/15/0
Deals, Finland 1st & 1st std	100	8/0/0 8/10/0
Do. 4th & 3rd		8/0/0 8/10/0
Do. Riga		6/10/0 9/10/0
St. Petersburg, 1st yellow		10/0/0 12/10/0
Do. 2nd yellow		9/0/0 10/0/0
Do. white		8/10/0 10/10/0
Swedish		9/0/0 15/10/0
White Sea		9/10/0 16/0/0
Canada, Pine 1st		20/10/0 26/10/0
Do. do. 2nd		15/0/0 17/10/0
Do. do. 3rd, &c.		7/10/0 12/0/0
Do. Spruce, 1st		10/10/0 12/0/0
Do. do. 3rd and 2nd		8/0/0 9/0/0
New Brunswick		7/10/0 8/0/0
Battens, all kinds		5 0/0 10/0/0
Flooring boards, 1st sq., 1 in. prep.		0/6/6 0/15/6
Do. 2nd		0/7/0 0/12/0
Other qualities—		0/5/0 0/6/6
Cedar, Cuba, ft.		/4½ /4½
Honduras, &c.		/4 /4½
Mahogany, Cuba		/5 /6½
St. Domingo, cargo av.		/4½ 2/3
Mexican, do. do.		/3½ /5
Tobasco, do. do.		/4 /7
Honduras, do.		/5 /6½
Box, Turkey, ton		4/0/0 25/0/0
Rose, Rio		7/0/0 24/0/0
Bahia		6/0/0 12/0/0
Satin, St. Doming.		0/6/6 0/2/0

TIMBER *(continued).*		
Satin, Porto Rico		0/0/6 0/1/6
Walnut, Italian		0/0/3 0/0/7
METALS.		
Iron—Pig, in Scotland	ton	2/4 6 0/0/0
Bar, Welsh, in London		5/15/0 5/17/6
Do. do. at works in Wales		5/10/0 5/12/6
Do. Staffordshire, in London		6/5/0 7/10/0
COPPER—British cake and ingot		52/0/0 52/10/0
Best selected		52/10/0 52/0/0
Sheets, strong		57/0/0 58/0/0
Chili bars		48/2/3 0/0/0
YELLOW MTL	lb.	4½d. 5d.
LEAD—Pig Spanish	ton	22/10/0 22/12/6
English com. brands		22/12/6 22/15/0
Sheet, English 6 lbs. per sq. ft. and upwards		23/17 6 0/0/0
Pipe		24/7/6 0/0/0
ZINC—English sheet	ton	22/5/0 0/0/0
Vieille Montagne		22/5/0 0/0/0
Spelter		17/2/3 17/2 6
TIN—Straits		62/10/0 0/0/0
Australian		60/10/0 0/0/0
English Ingots		64/10/0 65/10/0
Banca		62/0/0 0/0/0
Billiton		59/15/0 60/0/0
OILS.		
Linseed	ton	26/10/0 0/0/0
Cocoanut, Cochin		27/15/0 0/0/0
Do. Ceylon		24/0/0 0/0/0
Palm, Lagos		24/10/0 0/0/0
Rapeseed, English pale		27/10/0 29/15/0
Do. Brown		27/0/0 27/10/0
Cottonseed ref.		25/17/6 26/10/0
Oleine		28/10/0 29/10/0
Lubricating U.S.		0/0/3 0/7/6
Do. black		0/0/3 0/0/6
TAR—Stockholm	barrel	22/0 0/0/0
Archangel		0/10/6 0/0/0
Turpentine		20/10/0 0/0/0

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays.* N.B.—We cannot publish Tenders unless authenticated by the name and address of the sender: and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under £100, unless in some exceptional cases and for special reasons.]

ABERSOCH (Carnarvonshire).—For alterations and improvements to Bwich C. M. Chapel, Abersoch, near Pwllheli. Mr. R. L. Jones, architect, Carnarvon:—

Jones, Roberts, & Jones, Pwllheli £575

AUDENSHAW.—For the erection of class-room, St. Stephen's Central School. Mr. J. H. Buston, architect, 2, Guide-lane, Hooley Hill:—

J. Whitehead	£208 15	Executors of T. Stoser	£191 10
J. Ridyard	208 12	J. Pike & Son, Hooley Hill*	182 0
C. Evans	202 0		
J. Clayton	194 0		

* Accepted.

BARRY (Glam.).—For the erection of school buildings, Barry Island, for the School Board. Mr. G. A. Birkenhead, architect, Caledonian-chambers, St. Mary-street, Cardiff. Quantities by the architect:—

D. G. Price	£2,673 0 0	Jonathan Lewis, Cadoxton-Barry*	£2,753 12 3
Lloyd & Tape	2,847 17 0	G. & F. Courcni	2,749 19 0
D. Davies	2,795 0 0		
James Jenkins	2,794 0 0		

* Accepted.

[Architect's estimate, £2,703. 2s. 8d.]

BECKENHAM.—For the execution of painting works, repairs, &c., Alexandra Schools, for the School Board. Mr. John Ladds, architect, 7, Doughty-street, Mecklenburgh-square, W.C.:—

T. W. Jones	£522	Dennis & Jones	£376
Syme & Duncan	510	H. Heathfield, Kent House-road, Beckenham*	362
T. Cox	400		

* Accepted.

BIGGLESWADE (Beds).—For the execution of sewerage works, &c., Potton, for the Rural District Council. Mr. John W. B. Rooke, Surveyor, Council Offices, Biggleswade:—

W. Wade	£333 0	M. S. Kitteringham	£279 0
Bartle & Son	287 10	J. Jackson, London*	275 0

* Accepted.

[Engineer's estimate, £320.]

CARNARVON.—For the erection of school buildings, Carmel, for the Llandwrog School Board. Mr. R. L. Jones, architect, Carnarvon:—

O. Morris	£765	Edward Parry	£750
Hughes & Griffiths, Llanfair, P.G. Anglesea	752*	Richard Jones	725

* Accepted.

CARNARVON.—For the erection of County school buildings, in Bethel-road, Carnarvon, for the Carnarvon Local Governing body. Mr. R. L. Jones, architect, Carnarvon:—

D. Evans Jones	£8,585	Williams & Roberts	£6,512
R. Jones	7,077	Owen Morris, Carnarvon*	6,437
D. Williams	6,789		

* Accepted.

[Furniture and fittings of laboratories not included in the above tenders.]

CARNARVON.—For the erection of school buildings, for the Carnarvon School Board. Mr. R. L. Jones, architect, Carnarvon:—

D. Williams	£5,757	G. F. Williams	£5,287
R. Jones	5,499	Owen Morris, Carnarvon*	5,219
Hughes & Stirling	5,394		

* Accepted.

CARNARVON.—For the erection of Sunday School buildings, for the Committee of Waenfawr C. M. Chapel. Mr. R. L. Jones, architect, Carnarvon:—

W. Roberts	£1,764 13	Hugh Hughes, Newborough, Anglesea*	£1,275 0
Williams & Roberts	1,335 0	Hugh Jones	1,232 0
D. Jones	1,291 0		

* Accepted.

CHWILOG (Carnarvonshire).—For alterations and additions to Siloh Independent Chapel, Chwilog, R.S.O. Mr. R. L. Jones, architect, Carnarvon:—

H. Jones	£1,764 0	O. Morris Roberts	£1,218 0
R. Roberts	1,349 10	Gth. Jones, Morfa Nevin, near Pwllheli*	1,143 0
Jones, Roberts, & Jones	1,238 0	R. Jones	1,099 0
J. T. Jones	1,230 0	D. Evans (painting)	114 0

* Accepted.

CROOK (Durham).—For the erection of warehouses, &c., for Mr. Jos. Anderson. Mr. H. T. Gradon, architect, 22, Market-place, Durham:—

G. T. Nanners	£1,557 0 0	T. Walton Crook*	£1,122 9 3
T. Hilton†	1,129 10 9		

† Revised. * Revised and accepted.

ECCLES (Lancs.).—For the erection of a pavilion in the recreation ground, for the Corporation:—

Chapman & Hollinworth, Patricroft £190

EDEYRN (Carnarvonshire).—For the erection of chapel and schoolroom near Pwllheli, for the Committee of Edeyrn C. M. Chapel, Edeyrn. Mr. R. L. Jones, architect, Carnarvon:—

Griffiths & Griffiths	£2,125	J. Jones	£2,300
R. Jones	2,511	D. M. Roberts	2,294
Griffith Jones, Morfa Nevin*	2,358		

* Accepted.

GLEDHOW (near Leeds).—Accepted for the erection of two semi-detached houses, for Messrs. J. & H. Longbottom Mr. W. Carby Hall, Prudential-buildings, Leeds. Quantities by the architect:—

Bricklaying and Masonry—J. Richardson, Chapel Allerton	£446	8 0
Carpentry and Joinery—J. Richardson	245	0 0
Plumbing and Glazing—W. Briggs, Leeds	92	10 0
Plastering—W. J. Haddock, Leeds	72	0 0
Tiling—Watson & Worsnop, Leeds	59	0 0
Painting—A. W. Richardson, Leeds	19	11 3

GREAT YARMOUTH.—For the erection of St. Paul's Mission Church, half timbered, for chancel, nave, and organ chamber. Messrs. Bottle & Olley, architects, 5, Queen-street, Great Yarmouth. Quantities by the architects:—

G. Hawes	£1,552 0 0	T. Howes	£765 0 0
A. E. Bond	1,045 0 0	Balls	895 0 0
J. F. W. Bray	1,044 0 0	T. H. Blyth	820 0 0
J. P. Newby	995 10 0	W. Cork, Great Yarmouth*	764 0 0
Carter & Wright	979 0 0		
C. Wiseman	969 15 6		

* Accepted.

HULL.—Accepted for the erection of workshops, &c., St. Andrew's Dock, for the Humber Shipwright Co, Ltd. Messrs. Freeman, Son, & Gaskell, architects, Albert-chambers, Carr-lane, Hull. Quantities by the architects:—

Brickwork—J. R. Woods	£748 0 0
Masonry—Quibell & Son	20 10 0
Slating—W. Pollard & Son	115 0 0
Joinery—R. Finch	243 0 0
Plumbing—G. F. Walls	183 0 0
Ironwork—Wright & Son	288 10 0
Painting—C. Crane	31 14 1
	£1,596 14 1

[All of Hull.]

LONDON.—For alterations to the "Kentish Drovers" public-house, for Mr. E. W. Carpenter. Messrs. Waring & Nicholson, architects and surveyors, 55, Parliament-street, Westminster, S.W.:—

J. Marsland	£1,015	T. Hooper	£942
C. Ansell	968	Lapthorne & Co.	896
W. Smith	965		

LONDON.—For the erection of a house and stable at No. 14, Avenue-road, N.W. Messrs. H. H. & M. E. Collins, architects, 61, Old Broad-street, E.C.:—

	House.	Stable.	Total.
	£.	£.	£.
Mitchell	16,650	2,737	19,380
J. Kinninmont & Sons	16 309	2 583	18 912
Hall, Beddall, & Co.	16 285	2.490	18,775
G. H. & A. Bywaters & Sons	16,100	2 500	18,600
Greenwood	15,891	2,250	18 141
Calls & Sons	15,850	2.245	18,095
W. H. Lascelles & Co.	15,574	2,150	17,724
G. Trollope & Sons	15,221	2,338	17,560
Foster & Dixey	—	—	16,967
Durrant	14,536	2,130	16 666
H. Faulkner & Co.	14,432	2,143	16,575

LONDON.—For alterations and repairs to house at No. 82, Westbourne-terrace, W. Messrs. Mallett, Booker, & Co., surveyors:—

H. Carry	£1,577 19 0	J. Kinninmont & Sons	£1,389 19 6
Sanders	1,496 18 6	Stevenson	1,300 0 0
G. Taylor	1,438 0 0	H. Hanks	1,285 0 0

LONDON.—For re-drainage, &c., and additions to the infirmary, workhouse, and offices, Fulham Palace-road, W., for the Guardians of the Fulham Union. Mr. A. Saxon Snell, architect. Quantities by Mr. W. Hening:—

T. Adams	£11,027 4 11	G. Wimpey & Co., Hammersmith*	£7,378 0 0
W. Keefe	8,824 19 0	T. Bendon	7,136 0 0
H. Wall & Co.	7,552 0 0		
T. Nye	7,515 0 0		

* Accepted.

LONDON.—Alterations to 127, Kennington-road, for the Trustees of the Walcot Charity. Messrs. Waring & Nicholson, surveyors, 55, Parliament-street, Westminster, S.W.:—

Lapthorne & Co.	£420	T. Hooper	£359
W. Smith	389	V. Rogers	315

LONDON.—For the completion of two houses on the Cole Park Estate, Twickenham. Mr. George F. Snarpe, architect, 57 and 58, Chancery-lane, W.C., and Hamoton Hill, Middlesex:—

T. Jenkins	£1,002 6 8	J. T. Bassano	£527 0 0
T. J. Messum	980 0 0	W. Went	395 0 0
Taylor & Kennett	588 10 0		

LONDON.—For alterations, &c., "Eyre Arms" Hotel, St. John's Wood, N.W.:—

Bishop & Co.	£2,315	Turtle & Appleton	£1,840
Ilen	2,056	Melbourne	1,746
Ansell	1,855	Schwarz & Hudd	1,683

LONDON.—For the erection of a factory at Brook Green, Hammersmith, for the Incandescent Electric Lamp Company. Mr. J. W. Stevens, architect, New Bridge-street, E.C.:—

Dearing & Son	£7,490	W. & N. Castle	£7 2:6
Prestige & Co.	7,414	J. Carmichael	7,173
Holliday & Greenwood	7,362	Bailey	6 898
White & Co.	7,342	Seymour	6,735
Whitehead & Co.	7,245		

LOWESTOFT.—For additions to infirmary, Oulton Workhouse, for the Union Guardians. Mr. A. Clarke, architect, 126, London-road, Lowestoft:—

Scarle Bros.	£4,200 0 0	W. Cork	£3,535 0 0
Allerton & Earl	3,887 15 0	J. Ashby	3,530 0 0
Cole	3,806 10 0	Swatman, Lowestoft*	3,393 8 6

* Accepted.

LONDON.—For the execution of drainage works at the infirmary and additions to the workhouse and infirmary in the Fulham Palace-road, Hammersmith, W., for the Guardians of the Poor of the Fulham Union. Mr. A. Saxon Snell, architect, 22, Southampton buildings, Chancery-lane, W.C. Quantities by Mr. Walter Hening, Trafalgar-buildings, Charing Cross, W.C.:—

—	Estimate No. 1. Drainage and Laying out Grounds.	Estimate No. 2. Additions to Doctors' Residence and Infirmary Dispensary.	Estimate No. 3. New Story to the Out-Relief Stores, &c.	Estimate No. 4. New Asphalte Roadway.	Total.
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Adams	5,466 2 1	2,334 4 8	2,093 16 1	333 9 0	11,027 4 11
Keefe	3 994 6 8	2,073 1 8	2,511 15 0	245 15 3	8,824 19 0
H. Wall & Co.	3,524 0 0	1,630 0 0	2,030 0 0	378 0 0	7,562 0 0
Wimpey & Co.*	3,439 0 0	1,590 0 0	1,960 0 0	389 0 0	7,378 0 0
T. Bendon	3,165 0 0	1,844 0 0	1,951 0 0	376 0 0	7,136 0 0
T. Nye†	3,222 0 0	1,694 0 0	2,179 0 0	omitted	7,095 0 0

Accepted. Incomplete

NORWICH.—For additions to the West Norfolk and Lynn Hospital. Mr. H. J. Green, architect, 31, Castle Meadow, Norwich :—

R. W. Bayers	£1,109 15 6	Bacbill Bros.	£1,095 0 0
W. H. Brett	1,100 0 0	H. G. Richmer*	1,088 0 0

* Accepted conditionally.
[All of King's Lynn]

ROUNDHAY (Yorks).—Accepted for the erection of a house, stabling, &c., near Leeds, for Mr. J. Holmes. Mr. W. Carby Hall, architect, Prudential-buildings, Leeds. Quantities by the architect :—

Bricklaying and Masonry.—G. Nettleton & Sons, Roundhay £1,053
Carpentry and Joinery.—T. Barston, Leeds 283
Plumbing and Glazing.—W. Beggs, Leeds 124
Plastering.—T. Moore, Leeds 128
Tiling.—Watson & Wormsop, Leeds 142
Painting.—W. Walsh & Sons, Leeds 56

ST. ALBANS.—For the erection of four villas in Upper Worley-mead. Mr. Percival C. Blow, architect, 7, London-road, St. Albans :—

Bushell	£1,335	Miskin & Son	£1,275
Ruff Bros.	1,320	J. & W. Savage*	1,249

* Accepted subject to certain slight deductions.

TEDDINGTON.—For the reconstruction of Church-road, for the Urban District Council. Mr. M. Hainsworth, Surveyor, Elmfield House, Teddington :—

	Roadway.	Tar Paving.	Total.
T. Free & Sons	£3,230 3 4	£767 13 4	£3,997 16 8
Lawrence & Thacker	3,554 10 0	385 10 0	3,940 0 0
S. Kavanagh	3,444 15 0	357 1 6	3,771 16 6
W. Adamson	3,315 15 0	291 13 4	3,607 8 4
T. Adams	3,075 1 8	321 8 6	3,396 4 2
Wm. Wadley, Stoke Newington	*2,873 0 0	430 0 0	2,523 0 0
J. Wainwright	—	*251 4 8	—
A. J. Holman	—	266 12 6	—

* Accepted.

THUNDERSLEY (Essex).—For the erection of cottage residence. Mr. Arthur T. A. Bowyer, architect, 90, Leadenhall-street, E.C. :—

Geo. Lacey (accepted) £225

LONDON SCHOOL BOARD TENDERS.

BROOMSLEIGH-STREET.—Exterior painting :—

F. Chidley	£136 0	F. T. Chinchen	£128 15
Marchant & Hirst	134 0	W. Chappell	128 10
W. Hornett	131 0	E. T. Folley*	83 0

CENTRAL-STREET.—Exterior painting :—

C. Garling	£139 15	Stevens Bros	£99 10
W. Hornett	109 0	E. Folley*	97 0

COBOURG-ROAD.—Exterior painting :—

J. Garrett & Son	£235 0	J. Ford	£219 0
W. V. Good	230 0	Jones & Groves*	193 13

DALMAIN-ROAD.—Exterior painting :—

A. Black & Son	£145 0	Jones & Groves	£96 0
G. Summers	134 15	G. Kemp*	85 0

GAINSBOROUGH-ROAD.—Exterior painting :—

G. Wales	£216	G. Barker	£148
W. Silk & Son	197	A. W. Derby	159
W. Shurmur	193	T. Nicholson*	147
J. Kybett	187		

MONTEITH-ROAD.—Exterior painting :—

A. W. Derby	£375 0	S. H. Corfield	£295 0
J. Kybett	347 0	D. Gibb & Co.	295 0
J. T. Robey	320 0	G. Wales*	272 10

MONTEM-STREET.—Exterior painting :—

G. Barker	£340 0	G. S. S. Williams & Son	£271 0
McCormick & Son	225 0	Stevens Bros*	258 0
W. H. Stephens	171 10		

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F. G. Minter	130	J. Ford	149
J. Garrett & Son	179	Lathey Bros.	149
Rice & Son	173	Lilly & Lilly	147
D. Charteris	160	E. Triggs*	145

POPHAM-ROAD.—Exterior painting :—

G. Barker	£205	Stevens Bros.	£127
McCormick & Son	189	E. Folley*	117
Marchant & Hirst	137		

ROTHERHITHE NEW-ROAD.—Exterior painting :—

Johnson & Co.	£193 0	W. Banks	£130 0
Rice & Son	185 0	E. Triggs*	133 0
G. Summers	172 10		

ST. JOHN'S ROAD.—Exterior painting :—

A. W. Derby	£252	J. Kybett	£189
W. Shurmur	238	G. S. S. Williams & Sons	188
McCormick & Son	195	G. Barker*	183
W. Silk & Son	195		

TRINITY PLACE (exterior painting) :—

T. Cruwys	£105	J. Kybett	£85
G. Wales	93	G. Barker*	70

WARPLE-WAY.—Exterior painting :—

Rice & Son	£212	Holloway Bros.	£140
D. Charteris	155	F. G. Minter	135
R. E. Williams & Son	151	E. P. Bulled & Co.*	119

WOOD-STREET.—Exterior painting :—

G. Summers	£201 15	Jones & Groves	£178 10
W. Banks	183 6	E. Proctor*	160 0

* Accepted.

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